



Comparing NGOs and Public Health Services Treating Leprosy and Tuberculosis in a City of Bangladesh

Md. Manjur Morshed¹, Tahmida Khanom², Jiptha Boiragee³, Masuma Parvin⁴

¹Department of Urban and Regional Planning, Khulna University of Engineering & Technology, Khulna, Bangladesh; ²Indoor Medical Officer, Khulna Medical College Hospital, Khulna, Bangladesh; ³Program Support Coordinator, The Leprosy Mission International, Bangladesh, Dhaka, Bangladesh; ⁴Project Manager, AEP, The Leprosy Mission International, Bangladesh, Dhaka, Bangladesh

[Received: 12 September 2021; Accepted: 3 November 2021; Published: 1 December 2021]

Abstract

Background: Leprosy and Tuberculosis (TB) patients have choices of receiving treatment between Non-government Organization (NGO) operated and public hospital. **Objective:** This study compared patients' level of satisfaction between NGO and public hospitals treating Leprosy and TB. **Methodology:** The study was conducted in Khulna city during February-April, 2020. Using random sampling technique, questionnaire survey among patients and in-depth interviews among seven doctors and health service providers were conducted. Wilcoxon Signed Rank Test was employed to compare the difference in the level of satisfaction between NGOs and public hospitals. The sample patients' opinion on NGO and public health services for Leprosy and TB were synthesized from the perspectives of doctors and health service providers. **Results:** A total number of 53 patients were recruited for this study. The findings of the study suggested that most of the Leprosy and TB patients belonged to the low-income group, which led to ignoring the symptoms and delayed disease detection. In contrast to the NGO led health facility where the level of patients' satisfaction was high, public hospitals performed poorly for Leprosy and TB treatment. The stark difference between NGO operated and the public hospital was due to the specialized care by NGO hospitals, and due to the overwhelming number of non-communicable disease patients at the public hospitals. Access to funding, logistics and training, and a small number of patients, spurred better services by the NGO operated hospitals than their public counterparts. **Conclusion:** The study conclusively proved that NGO operated hospitals offered better health services than public ones for Leprosy and TB patients in Khulna. [*Bangladesh Journal of Infectious Diseases, December 2021;8(2):71-74*]

Keywords: Neglected tropical disease; NGO and public; health facility; preference; Khulna

Correspondence: Md. Manjur Morshed, Department of Urban and Regional Planning, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh; **Email:** manjurmorshedkhan@gmail.com; **Cell No.:** +8801748261050

Conflict of interest: The author(s) declared no potential conflicts of interest.

Funding agency: No

Contribution to authors: All authors were involved from protocol preparation to manuscript writing.

How to cite this article Morshed MM, Khanom T, Boiragee J, Parvin M. Comparing NGOs and Public Health Services Treating Leprosy and Tuberculosis in a City of Bangladesh. *Bangladesh J Infect Dis* 2021;8(2):71-74

Copyright: ©2021. Morshed et al. Published by Bangladesh Journal of Infectious Diseases. This article is published under the Creative Commons CC BY-NC License (<https://creativecommons.org/licenses/by-nc/4.0/>). This license permits use, distribution and reproduction in any medium, provided the original work is properly cited, and is not used for commercial purposes.

Introduction

Leprosy and Tuberculosis (TB) are two infectious yet neglected tropical diseases (NTDs) in Bangladesh. Leprosy is declared as an eliminated disease since 1998 as the reported case was less than 2 per 100,000. Bangladesh remains one of the highest Leprosy affected countries in the world, with 3,729 reported annual cases at the rate of 2.23 per 100,000 populations¹. As the same time, it remains the top 30 TB burden country in the world with an estimated 357,000 identified patients every year. By the time a TB patient has been identified, the person has already infected at least 10 people².

Non-Governmental Organizations (NGOs) are playing a key role in providing health services in Bangladesh. However, NGO health services are restricted often to the poor, and especially, to project basis and neglected disease-specific. Close ties with the poor community, flexible and committed staffs, donor patronage – these are important features of NGO health service provision in Bangladesh³. However, for political reasons, and possibly competition for international door funds, relations have undergone difficult phases⁴. Another move by the NGOs working in the health sector to decentralize the country's health system by doctor and nurses in Upazila hospitals faced deadlock due to vehement opposition by the powerful Bangladesh Medical Association (BMA). Eventually, the move was abandoned and NGO activities resorted to peripheral medical service provisions, i.e., Leprosy and TB.

In Bangladesh, for instance, the government and NGOs collaborate to a certain degree to provide health care, especially to vulnerable populations such as women, children, and the poor. Within such collaboration, the government retains ownership in the areas of policy formulation and implementation, human resource development and budgetary control. NGOs concentrate on facilitating the activities within national policies and strategies⁵. This study is conducted in Khulna city where Leprosy Mission International, PIME sisters – a charity mission and Bangladesh Rural Advancement Committee (BRAC) providing health services for Leprosy and TB.

The objective of this research was to see whether NGOs are better at providing health services for Leprosy and TB than the public ones. The second section of the paper is materials and methods. The third section is findings followed by discussion and conclusion in the fourth section.

Methodology

This survey was conducted during February to April, 2020 for a period of 3 months. Khulna is the third-largest city of Bangladesh and it is the study area of this study. Because the city is an administrative and regional hub, patients from all over the region seek medical services at Khulna city. In total 53 patients were recruited of which 19 cases were Leprosy patients and 35 cases were TB patients and they were randomly selected for in-depth structured questionnaire surveys. The patients were from PIME Sisters, which had provided health services to both Leprosy and TB patients. Apart from the PIME Sisters' own patient searching, it works in collaboration with government hospitals like Khulna Medical College Hospital, Khulna Sadar Hospital and Chest Disease Hospital, Khulna, Bangladesh and patients are often referred to PIME Sisters for Leprosy and TB treatment. A total of 7 doctors/health service providers were involved of which 3 from and 4 from NGO were interviewed by the first author of this paper. Descriptive statistics presented in a table were employed to explain the general observations of Leprosy and TB patients. Finally, the Wilcoxon Signed Rank Test was done to compare the satisfaction level of patients that were measured in the ordinal scale.

Results

Descriptive Statistics: The descriptive statistics were recorded on first detecting person, time to first detection and income range of Leprosy and TB patients. Understandably, patents/friends/family members are the first detecting person for Leprosy and TB. However, private doctors play the second most important identifier of both Leprosy and TB. Most of the Leprosy and TB patients are quickly identified, within one most of the symptoms. Even after, it took more than six months to have the diagnosis for a significant number of Leprosy and TB patients. The findings from the field survey suggest that most of the Leprosy and TB patients belong to the 10000-19999 BDT income category (25 out of 53), followed by less than 10,000 BDT. The income distribution is a signifier of Leprosy and TB affecting low-income people.

Table 1: Descriptive statistics

Variables	Leprosy	TB
First Detecting Person		
• Parents/Friends/Relatives	5	11
• Spouse	3	1
• NGO worker	5	2

• Doctors	6	21
Time of first detection		
• Less than 1 month	12	15
• 1 to 3 months	1	6
• 3 to 6 months	1	4
• More than 6 months	5	10
Income Range (BDT)/ month		
• Less than 10,000	15	
• 10000-19999	25	
• 20000-40000	11	
• Missing	2	

Difference in health service between NGOs and public: Table 2 presents the Wilcoxon Signed Rank Test comparing the satisfaction level before and after receiving health services from government hospitals for Leprosy and TB treatments.

Table 2: Satisfaction of Leprosy and TB patients before and After Visiting Public Hospitals

Satisfaction after –Before	N	Mean Rank	Sum of Ranks
Negative Ranks	18 ^a	11.42	205.00
Positive Ranks	3 ^b	8.50	25.50
Ties	29 ^c		
Missing	3		
Total	53		

a. Satisfaction after < satisfaction before; b. Satisfaction after > satisfaction before; c. Satisfaction after = satisfaction before; Satisfaction after – satisfaction before; $Z=-3.305^b$; P value=0.001; Wilcoxon Signed Ranks Test was performed based on positive ranks

Among 53 respondents, 18 responded negative and only 3 positively on the level of satisfaction from government hospital treatment. At the same time, 29 patients noted indifference to government hospital services to Leprosy and TB treatment.

Table 3: Satisfaction of Leprosy and TB Patients between NGO and Public Hospitals

Satisfaction NGO – Satisfaction after public hospital	N	Mean Rank	Sum of Ranks
Negative Ranks	0 ^a	0.00	0.00
Positive Ranks	37 ^b	19.00	703.00
Ties	7 ^c		
Total	44		

a. Satisfaction NGO < Satisfaction after public hospital; b. Satisfaction NGO > Satisfaction after public hospital; c. Satisfaction NGO = Satisfaction after public hospital Satisfaction NGO – Satisfaction after public hospital; $Z=-5.411^b$; p value=0.000; Wilcoxon Signed Ranks Test was done based on negative ranks.

The test statistics show a negative Z value and a p-value of less than 0.01, meaning the test is statistically significant at a 99% confidence interval. The interpretation is that the government hospital treatment for Leprosy and TB is dissatisfactory. Table 3 compares compare the satisfaction level between NGO health services and government hospitals treating Leprosy and TB.

From the above table, 37 out of 44 respondents ranked NGO health service more satisfactory than public hospital treatment. At the same time, only 7 out of 44 patients ranked indifference between the NGO and public hospital health services for Leprosy and TB treatment. With a negative Z value and a 100% confidence interval, the test results conclude that NGO led hospital and medical facilities are highly successful in treating Leprosy and TB patients in comparison to the public health services.

Discussion

The NGOs – for Leprosy, PIME sisters – are the first ones to notice except family and friends. PIME Sisters has dedicated medical team, hospital and service points. However, their services are often limited to Khulna city. The income distribution suggests that most of the Leprosy and TB patients belong to the lower-income groups (40 out 53 below 20,000 BDT/month). Low income can also be extrapolated to less capacity of Leprosy and TB patients to avail medical services due to limitations in budgeting time and expense for treatment. Similar findings on Leprosy patients was reported by Azad-Uz-Zaman et al⁶.

While Leprosy and TB patient detection is often limited to Khulna city, patients at their initial stage, and those residing in districts other than Khulna and rural areas, often take a long time to be identified. Out of 53, 15 patients were diagnosed with Leprosy and TB after more than six months of their first noticing of health problems. As trained doctors and medical staffs on Leprosy and TB is rare, or not known to the patients, the first service points are usually the government hospitals. This, however, points to another grim reality of Leprosy and TB treatment from government hospitals in Bangladesh.

The public medical education budgets too little time on Leprosy and TB, especially on Leprosy. According to one medical officer from Khulna Medical College Hospital, there was only a half-page course materials but no discussions in class about Leprosy. This lacking in government hospitals is now compensated by NGOs, namely PIME sisters,

who are collaborating with government hospitals by scheduled visiting hours for suspected Leprosy and TB patients. However, their services are limited to major hospitals and at the city level. More than often, doctors having minimum knowledge on NTDs, i.e., Leprosy, limit their responsibility by referring patients to PIME Sisters. Recently, BRAC NGO is collaborating with government hospitals and PIME Sisters for identifying TB patients. However, NGO activities are limited to the availability of projects and their activities are often objective.

One medical officer willing to be anonymous mentioned that NGOs treating TB patients with high-dose antibiotics, even for patients at their early stage. TB infection can be often symptomless and many can live a full life without needing any treatment. Secondly, BRAC NGO compensates their medical staff 250 BDT per every TB patient identification, making the number of patient identification an objective process. In the Bangladesh context, the poor can be exploited by the patient identification process of receiving medical services is a hard-to-get process in contrast to NGOs that provide free diagnosis and medicine. Thirdly, one medical staff acknowledged that even though Leprosy is declared as an eliminated disease in Bangladesh, all the efforts to detect Leprosy patients are to save the livelihoods of the existing staff of Leprosy Mission in Bangladesh as most of their activities are restricted to the availability of donations/funds. Finally, all but a few medical staff of NGO health service providers are not doctors, but trained staffs. Given the overwhelming number of non-communicable disease (NCD) patients, public hospitals cannot cater for a few Leprosy and TB patients. On the contrary, NGOs are well-staffed for a few a Leprosy and TB patients. One government medical doctor shared her experience as: *I used to work for Surjer Hashi Clinic (a USAID funded mother and child care facility). Over there, I used to have at best 10 patients per day. I could listen to patients' problems for more than 30 minutes. Now, when I am working at government hospital, I do not even have enough time to see the face of all patients because of sheer number of NCD*

patients. At government hospitals, we are too busy and refer the NTDs to some other specialized care like PIME Sisters.

On the contrary, NGOs are equipped with good logistics with a few patients. During the questionnaire survey, patients were brought in to the Damien Foundation for interview. This personal contact is only possible because of very few Leprosy and TB patients. Also, PIME Sisters has a dedicated medical team to look for patients in different poor settlements of Khulna city. Such flexibility in terms of patients and logistics are unthinkable at the public hospitals.

Conclusion

In conclusion, NGO and charity led medical services are limited to Leprosy and TB, i.e., PIME Sisters. In particular, the patients are referred to NGO hospitals from public hospitals, thanks to the NGO and government collaboration. The level of satisfaction from NGO health services is better than the public ones due to the limited number of patients, good funding and logistics of NGOs.

Acknowledgement: We thank Leprosy Mission International, Bangladesh for funding this research project.

References

1. Bow-Bertrand A, Pahan D, Mangeard-Lourme J. An exploration into the psychological impact of leprosy in Sirajganj, Bangladesh. *Leprosy Review*. 2019; 90(4):399-417.
2. Staff Correspondence. TB kills 129 per day in Bangladesh. *The New Age*. 2019 Feb 06.
3. Gellert GA. Non-governmental organizations in international health: past successes, future challenges. *The International journal of health planning and management*. 1996; 11(1):19-31.
4. Edwards M, Hulme D. *Beyond the magic bullet*. Kumarian Press; 1996.
5. MOHFW (Ministry of Health and Family Welfare). *Health and Population Sector Programmes: Programme Implementation Plan*. The People's Republic of Bangladesh; 1998.
6. Azad-uz-zaman Q, Hossain QZ, Hadi MAA, Boiragee J, Parvin M. Psychosocial consequences of leprosy and the related deformity in Bangladesh. *Asia Pacific Journal of Tropical Disease*. 2017; 7:25-29