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Reducing Delay in Pulmonary Tuberculosis Diagnosis by Engaging Informal Healthcare Providers
A Comparative Analysis Between a Semi Rural and an Urban Setting

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Background

Informal Healthcare Providers (IHPs) provide a significant portion of healthcare in many LMICs such as Cameroon. As seeking primary care from IHPs increases the delay in the diagnosis and treatment of PTB, we evaluated the effectiveness of a collaboration between the NTCP and informal healthcare providers in reducing delay TB care.

Methods

Setting: This study was carried out in Douala (Urban area) and Ebolowa (Semi-Rural area), the capital cities of the Littoral and South regions in Cameroon.

An informal health care provider (IHP) is unqualified individual who has received no or limited formally recognized training to deliver health care services.

Study population and sampling: Cluster sampling was used as the sampling method. Within each cluster (health district), a mapping exercise was done to identify and characterize all possible IHPs. Those IHPs that met the inclusion criteria and signed an informed consent form were included in the study.

Study procedure: The IHPs were trained on clinical signs and symptoms, and on the referral to the Center Diagnostic and Treatment (CDT). All IHP-identified presumptive TB cases were handed a “pink card” allowing study-participating patients to be distinguished from the all other patients diagnosed by the CDTs in intervention cities. The study-referred patient’s sputum was analyzed for PTB microscopy detection and the results were recorded in the “pink cards” that were later collected from the CDT by the study team members. All PTB positive patients were placed on treatment per national TB program guidelines. Pink cards were collected at the CDTs were compared to that given out by the IHPs in order to evaluate the number of patients that were successfully referred and eventually diagnosed by the CDTs. The time interval between the patient’s first consultation with the informal health care provider and the date of diagnosis was calculated.

Funding Sources / Conflicts of Interest

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No known conflict of interest

References

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Results

Characteristics	Douala	Ebolowa	P-value
Referral Delay			
< 1week	863 (93.02%)	437(95.11%)	
1≤weeks≤2	36 (3.84%)	11 (2.50%)	
2<weeks≤3	5 (0.58%)	01 (0.23%)	0.006
3<weeks≤4	6 (0.65%)	02 (0.45%)	
4<weeks≤8	8 (0.81%)	05 (1.14%)	
8<weeks≤12	00 (0.00%)	00 (0.00%)	
> 12weeks	10 (1.16%)	01 (0.23%)	
Range			
Diagnosis Delay			
< 1week	920(99.19%)	454(98.44%)	
1≤weeks≤2	00 (0.00%)	02 (0.44%)	
2<weeks≤3	00 (0.00%)	00 (0.00%)	0.023
3<weeks≤4	00(0.00%)	00 (0.00%)	
4<weeks≤8	07(0.75%)	01 (0.23%)	
8<weeks≤12	00 (0.00%)	00 (0.00%)	
> 12weeks	00(0.00%)	01 (0.23%)	
Range			
Total Delay			
< 1week	848(91.40%)	391(85.56%)	
1≤weeks≤2	41 (4.42%)	54(11.78%)	
2<weeks≤3	08 (0.81%)	01 (0.22%)	
3<weeks≤4	05(0.58%)	02 (0.44%)	0.451
4<weeks≤8	15(1.63%)	07 (1.56%)	
8<weeks≤12	00 (0.00%)	00 (0.00%)	
> 12weeks	11(1.16%)	02 (0.44%)	
Range			

Discussion and Conclusion

The critical role of IHPs in improving healthcare in Africa has been documented in various studies. In Nigeria, they were shown to be an integral of the healthcare system as they were key healthcare providers to underserved communities(1). In India, 69.5% of respondents in a study primarily consulted informal healthcare providers when in need of healthcare due to their proximity and their readiness to make house-calls (2). In Cameroon, the Ministry of Health does not authorize these IHPs to function as health providers, however, they operate in the open as they are often registered taxpayers contributing financially to the country’s economy. This incongruity blurs the lines for the health consumer who only sees a “health facility” in the neighborhood and fails to differentiate the informal health provider from the private, government-authorized, institution.

Our study showed that IHPs are able to successfully identify and refer presumptive cases to the CDTs for early diagnosis. There was no significant difference in the IHPs ability to refer TB suspects between rural and urban settings. The number of TB confirmed cases found through this collaboration is encouraging as it is likely that these cases would have otherwise been missed. We thus conclude that, if handled properly, IHPs can be asset to Tuberculosis control in our communities.