NIMR | National Institute for Medical Research, Tanzania

POLICY BRIEF

Increase TB Treatment utilization by minimizing the direct and indirect costs

Key Messages

- Tanzania reported high burden of TB cases (84,791) in 2021, with an infection rate of 222 per 100,000 and 47/100,000 mortality rate (NTLP 2021).
- TB treatment is taking long (6months) to complete, and it is associated with several visits, the direct and indirect costs to patients may compromise access to care and treatment adherence especially for those living far from health facilities.
- Majority of TB patients experience social and financial consequences in the course of seeking treatment.
- TB Patients are unable to participate in economic production activities because of severity of the disease. As a results, experiencing difficulties to earn money for transport, food and other costs. The unaffordability direct and indirect treatment costs may lead to poor adherence of TB which may increase the risk of treatment failure, drug resistance, and mortality.

Executive Summary

Tuberculosis (TB) is among the most killer diseases in Tanzania and globally. Over ninety per cent of the tuberculosis cases and deaths are consistently occur in low-and-middle-income countries (LMICs) each year. In order to reduce burden of TB disease in the community the Tanzania government

offers free TB treatment, as an effort to make sure everybody once diagnose with TB should be treated. However, TB patients often incur direct and indirect costs while seeking care at the facility. These costs become so catastrophic to bear to the people who live in poverty.

The mentioned financial hardship creates an adherence barrier to diagnostic and treatment which results to poor outcome and increase the risk of TB transmission in the community. This policy brief, therefore, provides policy options to improve the TB service provisions which will minimize the direct and indirect costs to patients and improve treatment uptake.

Background

World Health Organization (WHO) develop the End TB Strategy with the aim to end TB globally by 2035 (WHO 2014). The strategy aims to reduce the number of people suffering from TB by 90%, reducing deaths from TB by 95% and protecting the families from catastrophic costs (WHO, 2014). However, studies reported substantial costs incurred by TB patients during accessing the service (Chandra, 2020). TB affects households with low social economic status and causing financial burden to them. Research evidence demonstrates that, there are relationship between TB and poverty, and this could result to delay care seeking and increase lost to follow up as well as poor treatment outcome. (Bates et al..2004); Ukwaja et al, 2012; Munseri, et al 2019).

Tanzania government provide TB medicine for free however patients are still facing financial consequence. Because of sickness majority of patients interviewed were unable to participate in economic activities and depend on support from family, friends and community.

Apart from medical costs associated with pre-diagnosis such as registration, consultation and laboratory test, there are costs associated with public or private transport on the way to and from seeking care as well as the costs of procured

foods or drinking water or other soft drinks. Also, while on the way or while waiting for service at the service provider's point of care. The costs sometimes are found to be too high to the extent of making one or the family fail to afford it, apart from forcing some individuals to delay contacting formal healthcare providers and eventually developing severe or complicated illness conditions, with spill-over effects on their social and economic wellbeing including the days or hours lost out of participating in economic or productive activities needed to support them earn their living (Mhalu 2019; Nidoi *et al* 2021).

Also, majority of TB patients dissatisfied with the requirement to remain under care for six months following the initiation of their TB treatment. The main concern is about hospital visits which has cost implication. In the intensive treatment phase (0-3 months), patients collected medicine weekly thus experiencing a high frequency of visits. In the continuous phase (4-6 Months) of treatment, patients collected the medicine after every two weeks, incurring high transport costs, considering that most of them had lost their source of income since their diagnosis (Ukwaja et al..2012).

Studies conducted in Ethiopia shows that patients nonadherence was more frequent in continuous phase (4-6 months). In this stage patients are getting relief and they are capable of participating in economic activities (Gashu et al 2019; Adane et al, 2013). It shown that patients in continuous phase were seven times more likely to be non-adherent than those in intensive phase. Similar findings were reported in Brazil, Uganda and Southern Ethiopia.

Policy Options

To improve TB treatment outcome, we propose the following:

1. The registered TB patients to be included in Tanzania Social Action Funds (TASAF) for one year. This will enable them to get

financial support and improve treatment adherence.

2. In places where there is no facility offering TB services, Ministry of Health should consider using Village health workers or treatment supporter to supervise TB patients and minimize the hospital visits by increasing number of pills refilling especially in the continuous phase (4-6months). This will help to improve adherence to treatment and reduce loss to follow up as well as MDR-TB.

Implementation Considerations

1. TB Patients experience financial difficulties and unable to meet the basic needs as well as transport costs to and from the facility. The Ministry of Health and other TB stakeholders should support patients by involving those in need to Tanzania Social Action Funds (TASAF) for at least one year. This will minimize financial costs to patients and their family.

2. Ministry of Health and other TB stakeholders to reduce the frequency of visits to TB patients especially in the continuous phase (4-6months). This will be possible by using Village Health Workers and/or treatment supporter to make sure the patients adhere to the treatment. This will reduce the rate of Mult-drug resistant TB (MDR-TB).

Authors Affiliation

Stella Kilima, Senior Research Officer, NIMR HQ, Dar es salaam Tanzania

Acknowledgements

TB sequel Project for financial support to conduct this study, Witwatersrand and my supervisors; Prof. Denise Evans, Dr. Godfrey Mubyazi and Dr. Aneesa Moola; All the participants, from Mbeya Zonal Referral Hospital

Correspondence: Ms Stella Kilima@2023; Email: stella.kilima@nimr.or.tz

Edited by: Dr Elizabeth H Shayo and Dr George Praygod

References

Bates, I., Fenton, C., Gruber, J., Lalloo, D., Lara, A. M., Squire, S. B., Theobald, S., Thomson, R., & Tolhurst, R. (2004). Vulnerability to malaria , tuberculosis , and HIV / AIDS infection and disease . Part II : determinants operating at environmental and institutional level. 4(June), 368–375

Chandra A, Kumar R, Kant S, Parthasarathy R, Krishnan A. Direct and indirect patient costs of tuberculosis care in India. Tropical Medicine & International Health. 2020 Jul;25(7):803-12.

Majigo, M., Somi, G., Joachim, A., Manyahi, J., Nondi, J., Sambu, V., Rwebembera, A., Makyao, N., Ramadhani, A., Maokola, W. and Todd, J., 2020. Prevalence and incidence rate of tuberculosis among HIV-infected patients enrolled in HIV care, treatment, and support program in mainland Tanzania. Tropical Medicine and Health, 48(1), pp.1-8.

Munseri, P. J., Kimambo, H., & Pallangyo, K. (2019). Diabetes mellitus among patients attending TB clinics in Dar es Salaam: A descriptive cross-sectional study. BMC Infectious Diseases, 19(1), 4–11. https://doi.org/10.1186/s12879-019-4539-5

Prasanna, T., Jeyashree, K., Chinnakali, P., Bahurupi, Y., Vasudevan, K., & Das, M. (2018). Catastrophic costs of tuberculosis care: a mixed methods study from Puducherry, India. Global Health Action, 11(1). https://doi.org/10.1080/16549716.2018.1477493

Ukwaja, K. ., Modebe, O., Igwenyi, C., & I, A. (2012). The economic burden of tuberculosis care for patients and households in Africa: a systematic review. Journal of Strategic Studies, 29(4), 575–605. https://doi.org/10.1080/01402390600766007

WHO. (2018). Global Tuberculosis Report 2018.

https://www.who.int/tb/publications/global_report/en/. access date 31 Jan, 2019

Shringarpure KS, Isaakidis P, Sagili KD, Baxi RK, Das M, et al. (2016) “When Treatment Is More Challenging than the Disease”: A Qualitative Study of MDR-TB Patient Retention. PLOS ONE 11(3): e0150849. https://doi.org/10.1371/journal.pone.0150849

Fuady, A., Houweling, T.A., Mansyur, M. and Richardus, J.H., 2018. Catastrophic total costs in tuberculosis-affected households and their determinants since Indonesia's implementation of universal health coverage. Infectious diseases of poverty, 7(01), pp.36-49.

Adane, A.A., Alene, K.A., Koye, D.N. and Zeleke, B.M., 2013. Non-adherence to anti-tuberculosis treatment and determinant factors among patients with tuberculosis in northwest Ethiopia. PloS one, 8(11), p.e78791.

Gashu KD, Gelaye KA, Lester R, Tilahun B. Combined effect of pill refilling and self-medication reminder system on patients' adherence to tuberculosis treatment during continuation phase in Northwest Ethiopia: a study protocol for randomised controlled trial. BMJ Health Care Inform. 2019 Aug;26(1):e100050. doi: 10.1136/bmjhci-2019-100050. PMID: 31484661; PMCID: PMC7062340.

KILIFI, T.A.T.D.I., COUNTY, K. and CHEBET, N.A., 2022. TUBERCULOSIS TREATMENT ADHERENCE AMONG PATIENTS.

Nezenega ZS, Perimal-Lewis L, Maeder AJ. Factors Influencing Patient Adherence to Tuberculosis Treatment in Ethiopia: A Literature Review. Int J Environ Res Public Health. 2020 Aug 4;17(15):5626. doi: 10.3390/ijerph17155626. PMID: 32759876; PMCID: PMC7432798

Mhalu G, Weiss MG, Hella J, Mhimbira F, Mahongo E, Schindler C, et al. Explaining patient delay in healthcare seeking and loss to diagnostic follow-up among patients with presumptive tuberculosis in Tanzania: a mixed-methods study. BMC Health Serv Res. 2019;19(1):1–14.

Nidoi J, Muttamba W, Walusimbi S, Imoko JF, Lochoro P, Ictho J, et al. Impact of socio-economic factors on Tuberculosis treatment outcomes in north-eastern Uganda: a mixed methods study. BMC Public Health. 2021;21(1):1–16.