Policy Brief
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Strategies to Enhance Food Provision to Improve Treatment Outcome Among TB Patients in Nigeria

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Key messages

1. Tuberculosis (TB) disease impoverishes patients due to catastrophic costs and leaves them poorer, often leading to patients discontinuing treatment. Nigeria ranks high among other countries on this costs.
2. Every year about 15,000 TB patients are lost to follow up, also leading to treatment interruption.
3. Treatment interruption leads to development of a type of TB disease that is more difficult to treat (drug-resistant TB).
4. One untreated TB patient can transmit TB to about 10 to 20 persons a year, meaning those lost to follow up can infect about 300,000 people per year.
5. Provision of food and cash transfers have been shown to improve adherence to TB treatment, which leads to better treatment outcomes and reduction in disease transmission.

Background

Tuberculosis (TB) is a major public health issue in Nigeria. According to the 2021 WHO Global TB Report, Nigeria is among the 30 high TB, MDR-TB, and TB/HIV burdened countries, ranking sixth globally and first in Africa. The country has an incidence of 219/100,000 population amounting to about 475,000 cases each year.[1]

The major driving factors for TB in Nigeria includes undernourishment, HIV, diabetes, smoking, and alcohol use disorder, with undernourishment topping the list and driving of the cases. Poverty is the major underlying cause of the undernourishment.[1]

Nigeria has improved in the number of cases identified each year especially as the number of treatment sites increased. Between 2018 and 2022, the treatment sites established increased by more than 100% (from 9,625 to about 21,000); see figure 1.[2]

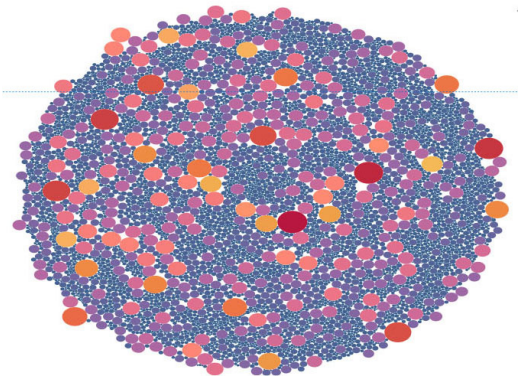

Figure 1: Bubble plot of treatment sites in Nigeria and their case burden (bubble size)

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Early identification of presumptive for diagnosis, immediate placement of TB cases on treatment, and quality case holding are all important aspects of successful treatment outcome and reduce the TB burden in the country.

In the past 10 years, Nigeria has recorded a treatment success rate ranging between 86% to 90%, and has been classified as one of the countries achieving the global target – see figure 2.[2]

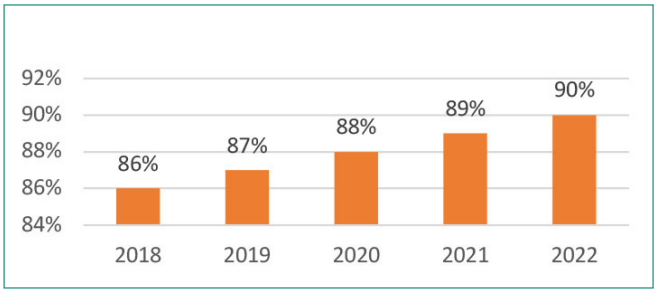

Figure 2: Trend of treatment success rate in Nigeria between 2018 and 2022

Despite this achievement, routine data analysis has shown that more than 45% of the unsuccessfully treated cases are lost to follow up – see figure 3.[2]

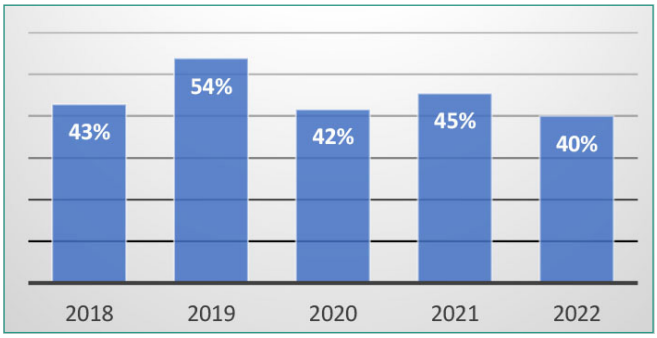

Figure 3: Proportion of unsuccessfully treated that were lost to follow up in Nigeria between 2018 and 2022

Social support for TB patients can be disbursed in different formats such as cash transfers, food provision, transport incentives, unemployment insurance, microcredit, psychosocial support, protection against stigma/ discrimination, and public health systems with universal coverage.[3,4,5,6]

Different countries have implemented several approaches to improve adherence which mostly involves social protection measures. Support can impact positively on the treatment outcome of patients as they play a major role in patients' commitment to treatment and improving patients' general wellbeing.

Methodology

This policy brief was produced by searching PubMed and Cochrane online databases. The articles relevant to the topic were selected, their findings synthesised, and conclusions drawn from them.

Summary of Findings

Relevant findings from Brazil, India, and Senegal that implemented food basket, cash transfer and ready-to-use therapeutic food respectively showed that the inclusion of social protective measures improves adherence and treatment outcomes for TB.

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Photo credit: Nzewi Confidence

Table 1: Summary of evidence synthesis

Study ID	Setting	Intervention	Outcome	Finding	Recommendation
Jigna D. Dave & Mihir P. Rupani; Daniel J. Carter et al.	LMIC – India; Brazil	Cash transfer policy	Treatment completion	Improved adherence	Recommends that cash transfer should be complemented with food provision
João Paulo Cantalice Filho	LMIC – Brazil	Food basket to TB patients	Cure rate and loss to follow up (LTFU)	Improved adherence – cure rate increased from 69.7% to 87.1% and LTFU decreased from 30.3% to 12.9%	Distribution of food basket is a useful strategy to improve compliance
Noelle A. Benzekri et al.	LMIC – Senegal	Compared food basket and ready-to-use therapeutic food (RUTF) for TB/ HIV co-infected patients	Adherence and medication possession	Four-week adherence, medication possession for anti-TB and ART were over 98% for both food basket and RUTF	Food basket was more acceptable when compared to RUTF

Policy option 1: The use of an existing cash incentive policy to improve tuberculosis treatment outcome

In India, this involved the use of an existing Government of India cash support through the direct benefit transfer (DBT) programme to transfer of funds into the beneficiary's account to improve TB treatment outcomes. This was adopted after the guidelines on nutritional care among TB patients were published by WHO.[3] Assessment of nutritional status at diagnosis, nutritional counselling through a mobile application, provision of enhanced ration, and monitoring the weight gain were a few benefits enlisted in the guidance document. The search using multiple key words showed systematic reviews that reported patients' outcomes of the use of cash incentive in addressing TB treatment outcomes.

A study from Brazil on the impact of a cash transfer programme on tuberculosis treatment success rate showed same findings on TB outcome among patients including their household management in TB prevention.[4]

The success of this intervention was seen in various studies, however the need to add feeding to the intervention was suggested to make it more impactful.

The process of transmission needs to transparent, and there should be consideration for those without bank accounts with easier electronic transfer systems. This process also provides an opportunity to address patients' challenges as it related to socioeconomic support of the patients. However there is need to evaluate the sustainability of this kind of support.

Policy option 2: Use of a food basket

Food basket involves the provision of locally available foodstuff, usually non-perishables that are low cost to the patients. A retrospective comparative study by João Paulo Cantalice Filho in Brazil, where a food basket was provided as an intervention showed that the cure rate increased from 69.7% to 87.1% and noncompliance decreased from 30.3% to 12.9 %.[5]

Photo credit: UNICEF

Another study by Noelle A. Benzekri et al. compared provision of a food basket and ready-to-use-therapeutic food (RUTF) for patients co-infected with TB and HIV in Senegal. The study looked at overall seven-day adherence, four-week adherence, and medication possession. All these exceeded 95% for both ART and TB treatment and both food basket and RUTF. The food basket, however had greater acceptability compared to the RUTF.[6]

Policy option 3: Ready-to-use therapeutic food (RUTF)

The RUTF (Plumpy'Nut) consists of a micronutrient fortified peanut-based paste that could be consumed directly from individually wrapped sachets. The study by Noelle A. Benzekri et al. in Senegal compared RUTF with provision of a food basket and concluded that although both were equally effective in the outcomes measured, seven-day adherence, four-week adherence, and medication possession, the food basket was more acceptable and cheaper.[6]

Implications

Food insecurity can contribute to poor adherence to both TB and HIV treatment. Poor treatment adherence subsequently is a barrier to effective TB control as it is synonymous with treatment interruptions and can lead to low cure rates and also low treatment success rates.

Food insecurity is a critical barrier to adherence and retention in care. Different countries have implemented either one or a combination of social protection measures, and these have shown effects on either case holding or treatment outcome. Evidence derived from literature shows that in countries where social protection is being implemented, a conclusion pointing towards ensuring the inclusion of food provision as either part of the intervention or the only form of the intervention remains constant.[3,4,5,6]

Recently the Government of Nigeria launched some social protection measures which included palliatives (food basket) and cash transfers to aid in alleviating hardship experienced by vulnerable and disadvantaged people, targeting 50 million persons. The country can take advantage of this to include TB patients as being eligible for these provisions. It will help to address the economic challenges of these patients through the treatment period and improve adherence. Country experience has also shown that treatment success rate increases as loss-to-follow-up rate decreases – see figure 4.

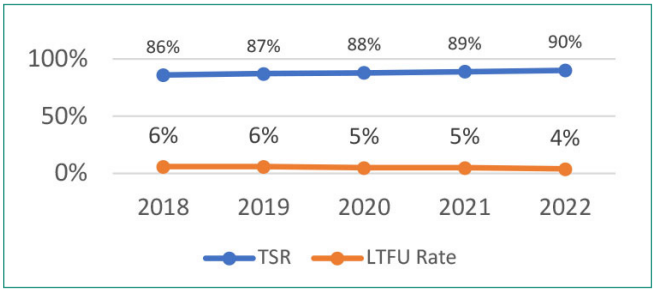

Figure 4: Trend of treatment success and loss to follow up in Nigeria between 2018 and 2022

About 300,000 patients are diagnosed each year in Nigeria of which 5% are lost to follow up, equating to about 15,000. This figure is large enough to re-infect 300,000 people again in a year (1 person can infect about 20 persons a year), which equals the entire number treated in a whole year. This leaves the country in a vicious cycle that prevents reduction of incidence. Treatment interruption also leads to development of drug resistance.

Recommendations

- The National TB programme can incorporate provision of a food basket in its guideline and in the programme's annual budget.
- The Ministry of Health can appropriate funds for food basket provision in the annual health budget.
- The legislature can approve the budgetary allocation for nutrition in health.
- The Treasury Department can enhance the release of the budget on food basket provision.
- The Ministry of Humanitarian Affairs can include TB patients in the eligibility criteria for palliatives and cash transfers.
- State ministries of health can ensure implementation of this intervention.
- The private sector can provide domestic resources to support food provision.

References

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THE LIGHT CONSORTIUM

Leaving no-one behInd: Transforming Gendered pathways to Health for TB **(LIGHT)**

Evidence-informed decision-making (EIDM) is an approach that enables decision-makers to effectively engage and apply the best available research findings in the design of policies and implementation of programmes.

Following delivery of EIDM training in 2022 to over 80 individuals, including National Tuberculosis Managers, LIGHT aimed to strengthen organisational capacity for EIDM by taking a 'trainer of trainers' approach followed by a mentorship scheme of representatives from National Tuberculosis Programmes from Kenya, Malawi, Nigeria and Uganda. Supporting these representatives to effectively write a policy brief was one output of this approach.