

Selected Summaries

Cash transfer interventions in tuberculosis treatment outcomes

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SUMMARY

The authors conducted a systematic review and meta-analysis on the effect of cash transfer interventions in improving treatment outcomes of active pulmonary tuberculosis (TB) patients in low- and middle-income countries (LMICs). They included observational studies and clinical trials assessing cash transfer interventions directed at people initiating treatment for microbiologically confirmed or clinically suspected active pulmonary TB. Outcome assessed was microbiological cure or treatment completion or treatment success (both). For better understanding, the average amount of cash received per patient within each study was converted into international dollars using purchasing power parity conversion factor and adjusted for inflation rate of 2016. Risk of bias from each study was assessed and a funnel plot was drawn. The summary effect (odds ratio, OR) for a positive outcome was assessed using the random-effects model, and heterogeneity was assessed using Cochrane's Q test and I^2 statistic. Eight articles met the eligibility criteria. Seven assessed TB-specific intervention, with average amount of cash ranging from Int\$ 193 to 858. One study assessed TB-sensitive intervention, with the average amount transferred being Int\$ 101. Four studies included non-cash co-interventions. All studies showed better primary outcome for the intervention group than the control group. After excluding three studies with high risk of bias, patients receiving TB-specific cash transfer were more likely to have a positive clinical outcome than the control group (OR 1.77; 95% confidence interval 1.57–2.01). The funnel plot did not show publication bias and the studies were not found to be heterogeneous ($Q 0.44, I^2 0\%$).

COMMENT

TB is the ninth leading cause of death worldwide, and a leading cause among infectious diseases.¹ Despite the fall in global incidence, the burden remains high, especially in LMICs where it is associated with poverty. The WHO End TB strategy was formulated in this context and it aims at 'reducing catastrophic health expenditure because of TB to zero'.² It also points to the two important barriers for global TB control: (i) lack of universal health coverage (UHC) and (ii) determinants that enhance the risk of TB such as poverty, undernutrition, migration and an ageing population.

UHC, defined as 'providing access to healthcare without the risk of financial hardship due to out-of-pocket expenditures' is essential but not sufficient in combating TB.³ TB generally affects vulnerable populations, hence eliminating catastrophic expenditure due to the disease should be addressed on a priority basis for fulfilling the equity component of UHC.⁴ Social protection interventions should be considered to mitigate financial risks associated with TB including both direct and indirect costs. One among the social support interventions suggested for TB control is 'socioeconomic support'.

Socioeconomic support includes the provision of social support (health, education and counselling) and economic support (financial assistance). A Cochrane review reported in 2012, lack of evidence to support the effectiveness of health education and counselling on treatment of TB.⁵ Furthermore, a review in 2016 reported considerable improvement in successful treatment outcomes on providing socioeconomic support to patients with TB.⁶ All the evidence so far has been from high-income countries and evidence from LMICs remains scarce.

Reports have shown that changes in the rate of TB are driven more by socioeconomic determinants than by disease control efforts, supporting the growing consensus that the directly observed treatment short-course strategy should be strengthened by socioeconomic interventions.⁷ Social protection in the form of cash transfer interventions can be TB-specific-targeting households and individuals affected by TB or TB sensitive-targeting people at risk of developing TB (poor families). In the current review, studies on TB-sensitive (targeting poor families as a whole) and TB-specific interventions (targeting TB-affected individuals and their families) from LMIC were included, and the WHO definitions for TB and its outcomes were adopted.⁸ The review reports an overall positive impact on treatment outcomes of TB patients receiving socioeconomic interventions and shows it to be an effective mode for management of TB in LMIC. However, the reason for exclusion of the Brazilian study measuring the effect of TB-sensitive intervention from summary effect measurement was not mentioned.⁹ Furthermore, only one randomized trial was available for inclusion in the review, and its quality assessment needs elaboration. Few studies included in the review had non-cash interventions provided to patients along with cash transfer.^{10–13} Thus, the summary effect reported could be the pooled effect of both cash transfer and non-cash co-interventions.

Worldwide, various countries have incorporated such cash transfer interventions.¹⁴ In India, such socioeconomic support measures involving conditional cash transfers have been introduced in various health programmes and policies for a long time, mainly targeting maternal and child health (MCH) indicators and neglected tropical diseases. India's Janani Suraksha Yojana (JSY) has been a success story in promoting institutional delivery, thereby reducing the maternal mortality ratio (MMR) across the country. In an evaluation study of JSY, it was reported that the proportion of institutional births increased after its implementation and also a negative correlation was observed with MMR.¹⁵ In addition, Janani Shishu Suraksha Karyakram (JSSK), a scheme which made services free for the

mother during the time of delivery and for the child during the neonatal period, helped in improving MCH care.^{16,17} There has been a change in the formulation of health-related policies and programme in India, wherein social protection schemes are given utmost importance, for example: Pradhan Mantri Mathritva Vandana Yojana and Ayushman Bharat (National Health Protection Scheme).

India contributes the maximum among high-burden countries and the country's National TB Programme has been a signatory and leading example in following the 'End TB' strategy.¹⁸ The National Strategic Plan for TB Control 2018 focuses on reducing the catastrophic expenditure to zero in the country.¹⁹ In resonance with the rationale of the current review, a socio-economic support intervention was rolled out in April 2018, all over India to promote nutrition in patients affected with TB called Nikshay Poshan Yojana.²⁰ In this scheme, every patient with TB was entitled to receive a cash amount of ₹500 per month till completion of the treatment for their nutritional support. So far, no trials and studies evaluating such interventions for TB have been done in India.

However, a retrospective cohort analysis documented significant improvement in outcomes of patients with drug-resistant TB following the provision of integrated psycho-socioeconomic support.²¹ A systematic review published in 2011, reported significant improvement in TB outcomes following non-cash (food, psycho-emotional and counselling) interventions.²² To the contrary, a non-cash interventional (food supplement) study from Tamil Nadu reported no significant difference in the TB-related outcomes.²³ These contrasting evidence call for a multicentric pragmatic controlled trial on the effectiveness of socioeconomic interventions in improving TB-related outcomes in the country. In addition, timely evaluation of the newly proposed financial assistance scheme under the Revised National TB Control Programme should be done, as the findings would add to the knowledge and evidence for further policy changes.

Conflicts of interest. None declared

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