

**REVIEW OF SOCIAL MARKETING INTERVENTIONS IN THE CONTROL
OF TUBERCULOSIS IN DEVELOPING COUNTRIES**

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by

**Diana Balachandran
MPH – Cohort V (2017-19)**

Under the guidance of

Dr Seema Mehta

Associate Professor
Institute of Health Research Management,
The IIHMR University, Jaipur, Rajasthan.

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ABSTRACT

Tuberculosis is one of top ten causes of mortality in low and middle-income countries. Tuberculosis is a major public health challenge which can be addressed through social marketing in developing countries. This project reviewed social marketing interventions in the control of pulmonary tuberculosis in developing countries, namely, Peru, Columbia, Ethiopia, Myanmar, India and Kenya. This is a descriptive study based on secondary data. This project found that there was increased awareness and knowledge regarding TB, higher notification of cases, improved diagnosis and better treatment rates all associated with lower healthcare costs. Social marketing led to improved health behaviour and better health outcomes.

KEYWORDS: social marketing, tuberculosis- social determinants, prevention, diagnosis, treatment, social and health behaviour change theories.

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LIST OF ABBREVIATIONS

AFB – Acid-fast bacilli

AIDS – Acquired Immunodeficiency Syndrome

CHW – Community Health Worker

DOTS – Directly Observed Treatment- Short Course

GP – General practitioner

HIV – Human Immunodeficiency Virus

IT – Information technology

MDOT- Mobile Directly Observed Treatment-Short Course

MDR-TB – Multi-drug-resistant tuberculosis

MTB – Mycobacterium tuberculosis

PSI – Population Services International

RNTCP – Revised National Tuberculosis Control Programme

SMART – Specific, Measurable, Attainable, Relevant, Time-bound

SPHC – Secretariat of Public Health of Cali

SQH – Sun Quality Health

TB/PTB – Tuberculosis/ Pulmonary Tuberculosis

UNAIDS – United Nations Programme on HIV/AIDS

WHO – World Health Organization

INTRODUCTION

Tuberculosis (TB) is one of the major public health challenges addressed through social marketing in certain developing countries in the world. Social marketing interventions used to address various public health problems have positively influenced health behaviours and better health outcomes.¹ TB is a highly infectious disease and one among the top ten causes contributing to 95 percent deaths in low and middle-income countries.^{2,3} The strongest risk factor for acquiring TB is the co-infection of Human Immunodeficiency Virus (HIV) and TB is the primary cause of one third of all HIV related deaths.⁴

In the year 2016, about 10.4 million people acquired TB and 1.7 million including 0.4 million with associated HIV succumbed to the disease. In 2016, about 1 million children acquired TB and 250,000 children including those with associated HIV, died of the disease.³ Seven countries, with India in the lead accounts for 64 percent of this total, followed by Indonesia, China, Philippines, Pakistan, Nigeria and South Africa.⁵

TB is a chronic disease caused by *Mycobacterium tuberculosis* (MTB). Primarily the infection occurs in the lungs - Pulmonary Tuberculosis (PTB), but when the infection is outside the lungs it is known as extra-pulmonary tuberculosis. PTB can easily spread through air via droplet infection. PTB presents symptoms like chronic cough, chest pain, haemoptysis, fatigue, loss of weight, fever and night sweats. Men are more commonly affected than women.⁷ Risk factors that increase the susceptibility to TB infection includes HIV, malnutrition, younger age, emerging and emerging ones such as tobacco smoke, alcohol, diabetes, indoor air pollution, use of immunosuppressive drugs. Socioeconomic and behavioural factors also increase the risk of infection.⁸ Not necessarily are all infected cases symptomatic unless the immune system is weakened and there is greater risk of illness.⁶

During 2000 and 2017, the diagnosis and treatment of TB which is key in the control of TB, saved an estimated 54 million lives.² Prevention, early detection of active infection and treatment of active disease are the overall measures to control TB. The most widely used diagnostic method for TB across the world is sputum smear microscopy.⁹ Directly observed therapy short course (DOTS) is the first line of treatment in developing countries.¹⁰

Drug resistant TB is an emerging public health threat commonly resulting from treatment default and inappropriate administration of therapy. This is believed to be due to weak TB control programs.¹¹

To achieve the 2020 milestone of the End TB Strategy for reduction in cases and deaths due to TB, the current annual TB incidence decline rate will need to accelerate from 1.5 percent to 4 to 5 percent per year. The current rate of decline of incidence of TB globally is rather slow despite investments in national TB programmes and newer diagnostic advances and treatment services. Moreover, the diagnosis and notification of the cases remain sub-optimal in countries with high burden such as Africa, Europe, and Asia.¹² Challenges for control of TB include missing cases due failure of diagnosis and notification, the crisis of MDR-TB, the co-infection with HIV and insufficient financial support.¹³

One of the health targets of the Sustainable Development Goals is ending the TB epidemic by the year 2030. To advance towards the TB pre-elimination phase of less than 10 TB cases per million population by 2035 and then progress to elimination of TB - less than 1 TB case per million population by 2050, further accelerated action is necessary over the current measures of prevention, detection and treatment with additional investment by funders and governments.¹²

To supplement existing TB control programs in the effort of achieving global targets of TB control, certain behaviours of the target group can be influenced with the

help of social marketing strategies. However, there is limited evidence due to poor documentation, monitoring and evaluation of the said social marketing interventions.¹

This project presents the major social marketing interventions implemented in the control of TB in developing countries across the world, namely, Peru, Columbia, Ethiopia, Myanmar, India and Kenya. It aims at understanding their functioning, strengths and weaknesses, challenges and the way forward.

RATIONALE

TB poses a significant challenge in the efforts for its control especially in developing countries with high rates of mortality. The key factors that would lead to success of its control is by early diagnosis and treatment. To attain the global targets of elimination of the epidemic of TB, the Sustainable Development Goals, supplemental interventions directed towards social factors of TB is essential. There is scope for using social marketing interventions in TB control by integrating strategic social marketing mix focusing on specific behaviours of the target audience in future interventions to achieve better health outcomes. It is useful to review previous social marketing interventions in the control of TB in developing countries to propose improved strategies, documentation and monitoring and evaluation research.

OBJECTIVES

Major Objective: To review major social marketing interventions in the control of tuberculosis in developing countries, namely, Peru, Columbia, Ethiopia, Myanmar, India and Kenya.

Minor Objective: To identify the key limitations in these major social marketing interventions in the control of tuberculosis in developing countries, namely, Peru, Columbia, Ethiopia, Myanmar, India and Kenya.

METHODOLOGY

This study is descriptive in nature based on secondary data. 41 research papers were reviewed using the inclusion criteria namely time duration for social marketing in public health, social marketing interventions in public health, social marketing interventions pertaining to control of TB and keywords related to social marketing, tuberculosis- social determinants, prevention, diagnosis, treatment, social and health behaviour change theories and exclusion criteria which included social media marketing to explain the information from the literature for relevant findings according to context, i.e. social marketing interventions with respect to controlling tuberculosis in developing nations.

Six social marketing interventions in the control of TB were exclusively identified using a combination of the keywords in the context of comparability of developing countries namely, Peru, Columbia, Ethiopia, Myanmar, India and Kenya were reviewed. The period of the social marketing interventions considered was between 1991 to 2018. Recent literature was difficult to obtain and thus limiting results to records published between 1994 to 2018 were reviewed. Important systematic review databases like PubMed/Medline, ScienceDirect, ResearchGate, Lancet, Cochrane Database of Systematic Reviews, Popline, 3iE impact evaluation repository, Embase and Scopus were used. Internet search engines like Google Scholar and Google Search were also used for additional information on social marketing interventions (refer Figure 1 below). Further articles from journals, namely, WHO publications, public health journals, preventive medicine journals, social marketing journals, health policy and health systems research journals were reviewed to understand the concept of social marketing and its strategic marketing mix. The review has been synthesized on the dimensions of purpose, objective,

situation, target audience, process, social marketing mix, strengths, weaknesses and challenges.

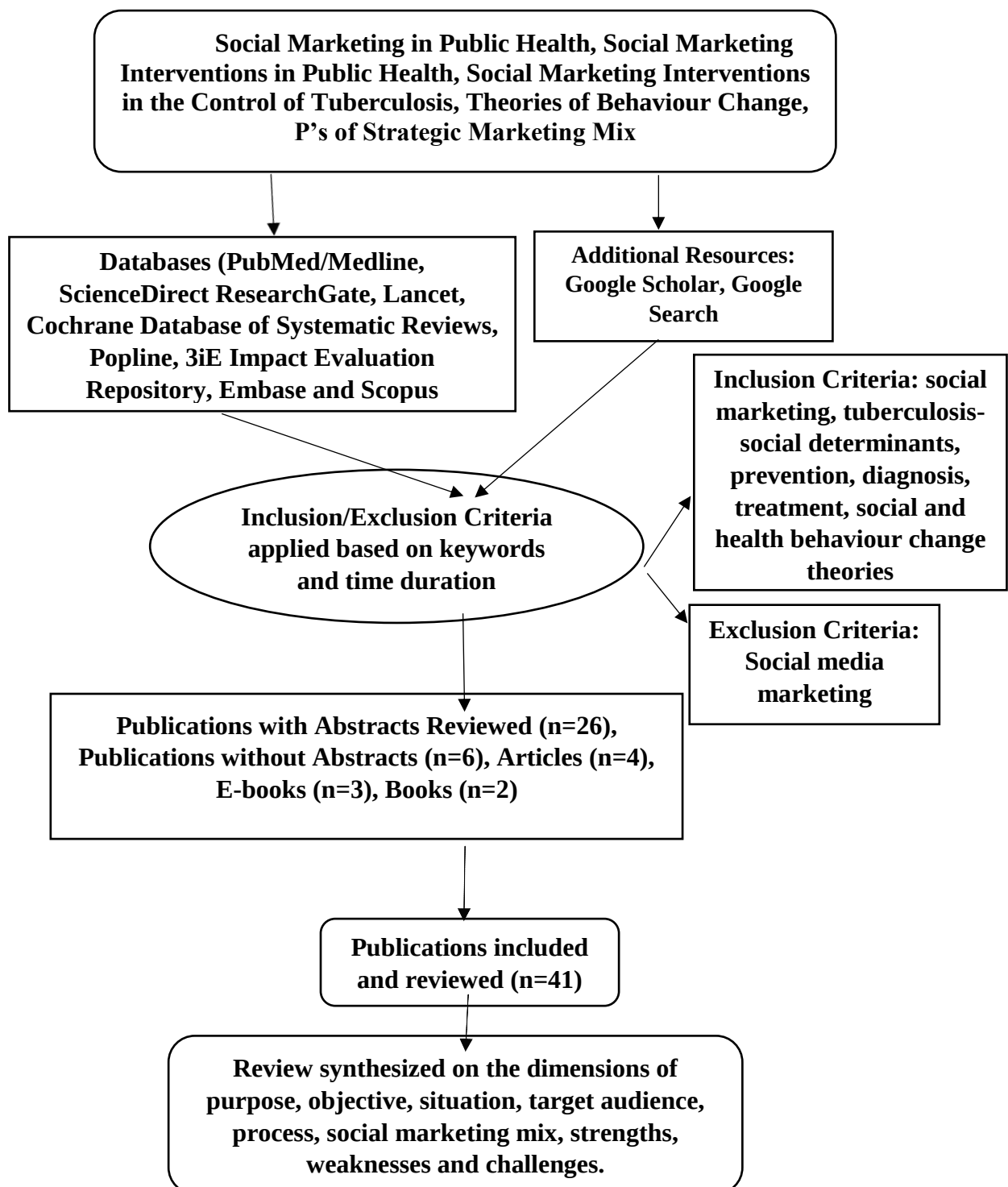


Fig. 1. Research Methodology Process Flow

SOCIAL DETERMINANTS OF TUBERCULOSIS IN DEVELOPING COUNTRIES

Although Stop TB and DOTS strategies have led to improved diagnosis and treatment adherence, the extent of the epidemic and impact on incidence of TB cases is still troubling.¹⁴ There is an increased focus on addressing the social determinants of TB due to the unequal distribution and clustering of TB cases among poor socioeconomic groups.¹⁵ In recent times, there have been efforts to understand the relationship between TB and other risk factors along with social factors to lay a foundation for innovative measures to control TB.¹⁴ Along with the existing efforts to increase access of healthcare to communities with active case-finding and outreach services, health promotion efforts to change their behaviour by informing them about TB and factors that increase its risk is important.¹⁴

Treatment adherence poses as a complex health challenge in the elimination of TB. Varied beliefs about the origin, transmission and treatment of TB lead to its stigmatization among affected people. Non-adherence to treatment leads to drug resistance. The most commonly employed behavioural theories with respect to treatment adherence are transtheoretical model and cognitive learning theory. These theories would help to develop theory-based interventions in combating TB among populations.¹⁶

Transtheoretical model includes the stages that an individual pass through to adopt a behaviour, that is, 1) precontemplation, 2) contemplation, 3) preparation, 4) action and 5) maintenance.¹⁷

Cognitive learning theory is based on the fact that behaviour change is influenced by factors within the individual and the environment where a person is motivated to perform a certain act if one believes that the expected positive outcome of a behaviour is above the expected negative outcome.”¹⁷

SOCIAL MARKETING IN PUBLIC HEALTH

“The American Marketing Association defines social marketing as the branch of marketing designed to influence the behaviour of a target audience in which the benefits of the behaviour are intended by the marketer to accrue primarily to the audience or to the society in general and not to the marketer.”¹⁸

For-profit, public, and private non-profit organizations or individuals can engage in this discipline by using a systemic plan to form effective strategies for public health interventions.¹⁸ It is founded on the principles and techniques employed in commercial marketing such as the marketing mix strategies or the 4Ps – product, price, place and promotion along with more P’s specific to social marketing – publics, partnerships, policy and purse strings. Therefore, the highlight of social marketing is the integration of the strategic marketing mix and concepts of social and behaviour change.¹⁷

Kotler and Lee (2008) emphasized that social marketing influences behaviours of a target audience toward four behavioural changes, namely, 1) acceptance of a new behaviour, 2) rejecting an undesirable behaviour, 3) modification of a current behaviour or, 4) discard an undesirable behaviour.¹⁹

STRATEGIC MARKETING MIX IN SOCIAL MARKETING

Social marketing uses traditional marketing concepts to develop a comprehensive strategy for an intervention called marketing mix. The use of these concepts increases the possibility of success of the intervention.¹⁷ The conventional strategic factors used in the planning process of a marketing intervention are as follows:

Product: This is the behaviour that is aimed for the target population to adopt.

Core Product: These are the benefits that the target audience will obtain for performing a targeted behaviour which is highlighted in a campaign or intervention. For example, normal health on taking anti-tubercular treatment.

Actual: This is the desired behaviour that is incorporated by its major specific features. For example, taking treatment after getting diagnosed with TB.

Augmented – The additional physical or material objects and services that will be offered and promoted to the target population. For example, anti-tubercular treatment at a health facility

Price – These are costs that will be paid by the target audience to adopt a desired behaviour which would lead to promised benefits. This could be monetary, for example, offering a free medical insurance scheme to cover healthcare costs of anti-tubercular treatment and non-monetary benefits like free tuberculosis diagnostic and treatment services.

Place – This is the place and time the target audience will be encouraged to perform a desired behaviour or to obtain a physical or material product or service offered with the campaign. For example, door-to-door outreach services for anti-tubercular therapy by community health workers

Promotion - This includes:

Key messages which are aligned with the social marketing objectives based on what the campaign wants the target audience to know, believe and do. For example, “meet a physician if you cough for more than 15 days”

Key messengers who are credible, likable and carry the expertise to deliver messages, likable. For example, community health workers.

Key media channels are the channels of communication. For example, mass media like television and radio; printed material like posters; public events like; national TB day, etc.¹⁷

Social marketing further uses additional P's in recent times as follows:

Publics: This pertains to the external and internal groups or the audience engaged in the programme. The target audience (for example TB patients) and policy makers (for example state health ministers), whose behaviour is aimed at to achieve an effect, is the external group. The internal group consisting of healthcare workers, programme supervisors and other staff like laboratory technicians, are to comprehend the intervention and its execution.

Partnerships: Partnerships are essential to tackle complex issues of social relevance and health, ultimately offering benefits to both teams. Collaboration with other community groups or organizations having similar goals could be beneficial in sharing ideas, resources and access to the target audience. For example, national TB control programme collaborating with non-governmental organizations to increase diagnostic coverage.

Policy: To sustain individual behaviour change, the support of policies is fundamental. Media can also influence policy makers via attention and lobbying. For example, public smoking bans by a government can reduce the incidence of smoking.

Purse Strings: Organizations with social marketing programmes utilize funds for its operation. For example, foundations, government grants, and donations.¹⁷

ROLE OF SOCIAL MARKETING IN THE CONTROL OF TUBERCULOSIS

TB is a major challenge addressed through social marketing. For the development of effective communication strategies for the control of TB, the following lessons from previous social marketing interventions were advised to be considered:

- i. Political commitment when combined with utilization of increased resources.
- ii. Strategic timing of communication activities to correspond with enhanced clinical services.
- iii. Communication activities are to be integrated with into all activities of the intervention at every level.
- iv. Formative research.
- v. Providing simple and consistent messages to be communicated through a mix of mass media and interpersonal communication.
- vi. Participation of community healthcare providers and private practitioners in the intervention.
- vii. Establishment of partnerships at all levels.
- viii. Making efforts to reach difficult to access areas with preference to those with high prevalence.
- ix. Establishing an encouraging and positive culture.¹⁹

SOCIAL MARKETING INTERVENTIONS IN THE CONTROL OF TUBERCULOSIS IN DEVELOPING COUNTRIES

PERU: Communication strategy to fight against tuberculosis

Purpose: To decrease the existing high burden of TB through social marketing.

Objectives:

- 1.) To diagnose 70 percent of PTB cases and cure 85 percent of diagnosed cases.
- 2.) To reduce the number of defaulters among the positive cases.²⁰

Situation - In1991, Peru was considered to have a high TB burden. Even though its total population accounted for only 3% in the Americas, it carried a burden of 15 percent of

TB cases.¹⁹ The treatment defaulter rate was 12.1 percent²⁰; and only 50 percent of cases diagnosed were started on treatment out of which only half were cured.²¹

There was a shortage of drug supply, no health record systems and health workers were overworked. Public pressure via strikes by patients demanding access to effective drugs led to pronounced commitment and action in Peru. The country recognized the impact of TB on its people and economy as it was mostly affecting the productive age group.¹⁹ A study showed that the expenditure incurred towards control of TB via this intervention increased from US\$ 67 million to US\$ 108 million but this was considered a good investment towards decreasing the burden of disease.²⁰

Target Audience: High risk groups like urban poor in crowded areas and people with currently infected TB.

Period of intervention: Since 1991.

Process of intervention: The government of Peru emphasized TB as a significant and wide-spread public health issue and increased their yearly from US\$600,000 to US\$5 million budget towards their National TB programme.^{20,21} To enhance the programme, partnerships were created with private and non-profit organizations as well. Important international partners included the Pan American Health Organization, which provided technical support and training; and USAID, which supported the communication strategy development (refer Table 1) and collaboration with international pharmaceutical companies to help ensure a sufficient drug supply.¹⁹

Table 1. Market Mix Strategies for reduction of prevalence and death rate due to tuberculosis through a communication strategy in Peru

P's	STRATEGIES
PRODUCT Core: - Benefits for the behaviour Actual: - Behaviours and features of behaviour Augmented: - Tangible objects and services	- From testing: mental peace - From taking medication: getting well - Get tested and take medication properly - DOTS therapy - Sufficient supply of drugs - Counselling for patients - Patient and family support groups
PRICE Monetary and nonmonetary incentives	- Free diagnostic testing - Free medication for those who need them - Microcredit loans - Travel reimbursements
PLACE Access to tangible objects and services	- Extended clinic hours - Home visits for DOTS therapy - Transportation for those in need
PROMOTION Key Messages Key Messengers Key Media Channels	“All TB services are free” “If you cough for more than 15 days you should go to the health centre” “Treatment for one is prevention for all” - Healthcare workers - Family members - Community organizations and volunteers - Mass media channels: radio, television, print media, billboards - Printed material: letters, posters, fact sheets - Special events: street theatres, World TB Day - Videos related to TB: healthcare facility waiting areas - Personal communication: health workers - Community mobilization: surveillance groups - Advocacy: local groups focusing on families and political leaders

Source: Cheng H, Kotler P, Lee NR. Social marketing for public health. Social marketing for public health: Global trends and success stories. 2010 Oct 22:1.

Results - In the year 2000, Peru's TB programme was recognized by the WHO as one of the world's most successful DOTS programme having met the WHO targets for TB control with a case detection rate of 70 percent and cure rate of 85 percent. An estimated 94 percent of TB cases were detected, and 90 percent of cases were cured, thus preventing nearly 70,000 cases and deaths.¹⁹ Participation of health facilities increased in number from 1,000 in 1991 to more than 6,000 in 1999.¹⁹ The number of laboratories conducting smear tests increased from 300 in 1989 to above 1,000 in 1999 due to the increased efforts of identifying new cases.²¹

Strengths - Peru successfully reduced the incidence of TB by an estimated 7 percent per year during 1990 and 2000, from 190 cases per 100,000 to 140 cases per 100,000.²²

Overall, the success of this intervention was due to the following:

- Multiple and unique target markets to influence target audience.
- Formative research gave an overview of barriers faced by the target audience by utilizing the intervention.
- Existing data helped establish SMART goals to monitor progress.
- Positioning of the campaign helped in planning the communication strategy which led to an integrated approach.
- The strategic marketing mix P's were useful to identify its specific needs and shortcomings¹⁹

Challenges: New challenges like MDR – TB and co-infection with HIV/AIDS emerged and required additional funding for its control.¹⁹

COLUMBIA: [Mass media health education campaign to control tuberculosis](#)

Purpose - Control TB by increasing case detection and reduce levels of discrimination against people with TB in Cali, Columbia.

Objective -

- 1) To reduce the prevalence of discrimination against people with TB and
- 2) To increase the demand for sputum samples for diagnosis in the Secretariat of Public Health (SPHC) laboratories through a mass media health education campaign in Cali, Columbia.

Situation - In 1993, the SPHC was notified that the rate of new PTB cases with a positive direct smear was 35 per 100,000 population annually. The incidence of TB was not greatly affected by co-infection with HIV (6 percent).²³

In Cali, the SPHC delivered free health care service through its TB Control Programme which followed WHO guidelines. This programme involved passive case finding, that is, patients having symptoms of chronic respiratory disease with a positive smear sample and providing short-course chemotherapy with the observation of a healthcare worker. The rate of cure was more than 80 percent in most health facilities, but it suffered troubles with coverage, management and education of healthcare workers and the community.²⁴

Formative research on lay beliefs about TB in Cali showed that it was a stigmatized condition including among healthcare workers.²⁵ The earliest symptom of cough for more than 15 days was not of concern unless people manifested other associated symptoms like fever or weight loss.²⁶ This contributed to prolonged delay in diagnosis and raised the costs surrounding this delayed health seeking behaviour. It was also revealed that the indications and procedure for demanding direct smear tests and the costs were unknown to many healthcare workers and the community. This led to poor efficiency of case finding activities and further delay in diagnosis of the cases.²⁴

Target Audience: People with TB and the community in Cali, Columbia.

Period of intervention: April 8 to May 20, 1994 (six weeks).

Process of intervention: In 1993, the SPHC and the Colombian League Against Tuberculosis and Lung Diseases-Chapter of Valle (LAC-Valle), a non-governmental organization, introduced a programme which aimed to increase service coverage in terms of diagnosis and treatment, improve efficient management of services and increase the education level of health care workers on TB.²⁵ Alongside this the mass media health education programme was delivered.²⁴

The assumption prior to the campaign was that ignorance of early symptoms of TB and diagnostic costs were attributed to low demand for direct smear tests and hence, the low diagnostic coverage; but other factors must also be considered.²⁶ Previous research revealed that among health seekers, private clinics were the health facility of choice as opposed to the SPHC but private clinics failed to fully meet the needs of people^{26,27}. Moreover, they often missed diagnosing TB in most patients presenting with chronic respiratory symptoms unless the symptoms were strongly indicative towards the disease^{26,27}. And among those who preferred private clinics it was implied that the SPHC was a less appealing option for obtaining healthcare. The mass media health education campaign comprised of 3 components (refer Table 2 for further information).²⁴

Table 2. Market Mix Strategies for the control of TB through a mass media health education campaign in Cali, Columbia

P'S	STRATEGIES
PRODUCT Core: - Benefits for the behaviour Actual: - Behaviours and features of behaviour Augmented:	- From testing: peace of mind - From taking drugs: getting well - Increase in knowledge and awareness among people about the early symptom of TB being cough for more than 15 days - Get tested by demanding direct smears and taking dots therapy - Reduction in level of preconceived notion against TB patients

• Tangible objects and services	• Free diagnostic services in the SPHC labs • Free short-course chemotherapy
PRICE Monetary and nonmonetary incentives	• Free diagnostic services in the SPHC labs • Free healthcare services • Free short-course chemotherapy under the observation of a healthcare worker
PLACE Access to tangible objects and services	• SPHC centres and its diagnostic laboratories
PROMOTION Key Messages Key Messengers Key Media Channels	Messages conveyed through the campaign included: • TB if left untreated would be potentially fatal • Mechanism of spread of TB • The most important and earliest symptom of TB is cough lasting more than 15 days for which a diagnostic facility must be visited • Free diagnostic tests and free, effective and safe treatment to cure TB is available • Develop a favourable attitude towards TB patients rather than discriminate or avoid them • Healthcare workers • Respiratory doctors • Campaign managers • The television and radio component broadcasted public service announcements and chat shows which included discussions between TB patients, respiratory doctors and campaign managers • The printed component highlighted main messages of the campaign and comprised of flyers that were distributed along with one Sunday issue of two local newspapers, two feature articles and two tabloids.

Result – A study was conducted to assess the effect of the intervention based on demand for direct smear tests by counting the total number of sputum smears stained in the laboratory network of the intervention. The results of this impact assessment, using a quasi-experimental design, revealed that the educational campaign led to an increase in number of direct smears by 64 percent and an increase in new cases of positive PTB by

52 percent compared to previous years.²⁰ Although one of the objectives was to reduce the prevalence of discrimination against people with TB, it was inconclusive.

Strengths - This strategy for the control of TB has significantly prioritized efforts in curing TB patients as compared to the previous passive case finding. The campaign created mass awareness which led to increased demand for diagnosis which then had to be met by the SPHC.

Weaknesses: The television and radio broadcasts were eventually discontinued due to lack of a long-term plan and this led to decrease in the momentum of the intervention. Due to this, the effect of the intervention was short-lived despite its strong immediate effects. An important observation was that passive case detection was an inadequate method to reach the diagnostic coverage targets. Although the Ministry of Health of Columbia had the power and resources to enhance the TB control programme, it lacked the political wilfulness to conduct standard evaluation research studies. Moreover, this campaign was an initiative by local institutions which lacked the power to accomplish the tasks of the Ministry of Health and the capacity and resources to conduct standard evaluation research studies.²⁴

Challenges: To evaluate the impact of this intervention at the community level, a quasi-experimental study was done rather than the gold standard – randomized control trial as it was not feasible to conduct for this intervention.²⁴ This intervention lacked post activity control. Despite one of their objectives being to tackle the discrimination among patients with TB, this was unable to be addressed by the mass media health education campaign.

ETHIOPIA: A village outreach programme for the prevention and control of tuberculosis and for health promotion

Purpose –

- 1) To tackle the obstacles related to access (in terms of distance and time) of the community to a healthcare facility for diagnosis and treatment of TB.
- 2) To reduce the overall TB burden of the country.

Objective - To increase case-detection of smear positive TB patients through a community-centred health extension initiative in a rural area in Ethiopia with a focus on health promotion for TB prevention.

Situation – Ethiopia, ranked 7th out of 22 countries in TB burden.²⁸ Access was found to be a significant factor which was associated with delayed case detection and treatment.²⁹ It took more than two hours of travel for more than half the population to reach a public health facility and there were very limited number of private clinics. It was also found that healthcare was sought from alternative providers like traditional healers.³⁰

Target Audience - Rural communities in Ethiopia

Period of intervention - 1st May 2003 till present

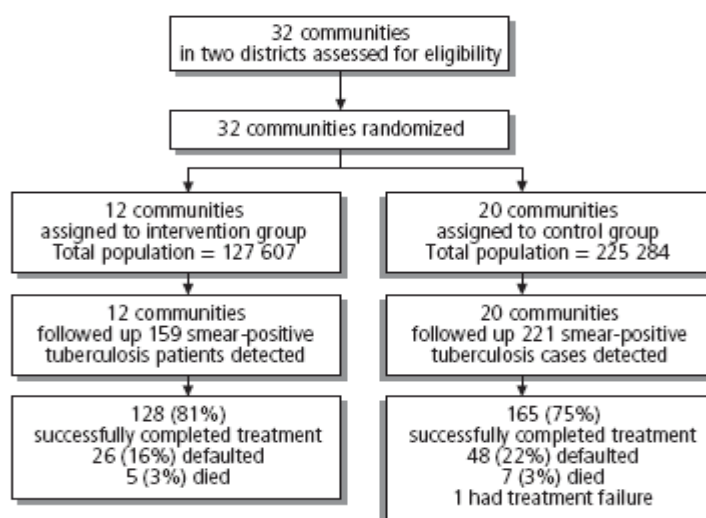
Process of the Intervention - A community-centred health extension initiative with a focus on health promotion for TB prevention was established by the Ethiopian government (refer Table 3 for further information).³¹ The primary actors of this initiative were the health extension agents or community health workers. Prior to the initiative, the local government body and community leaders in two different rural districts in Southern Ethiopia were engaged in discussions with the programme objectives. The office of the zonal TB programme selected fourteen health workers - twelve nurses and two health

officers from seven health facilities having AFB microscopy. Four days of training on case-detection, diagnostic procedures, coordination of outreach activities, supervision of sputum samples, interview technique and record maintenance were given to these health workers. Ten community promoters, six of whom had primary level education and four had secondary level education, all with prior experience with community outreach activities, were identified.¹⁵ They were trained for four days on basic information about TB. Perceptions of the society, identification and referral of suspected cases and simple communication technique using locally comprehensible messages about the disease were also taught to them. Posters and leaflets with facts about TB were provided from the regional TB programme which included causes, symptoms and treatment details stressing that the disease, with treatment is curable. They decided on suitable monthly dates for the diagnostic outreach clinic services with the community leaders. The community promoters visited houses in the villages for three to four successive days before the outreach day each month. Health workers acquired information on patients based on their social and demographic background, residence, mode of referral (either self-referred or diagnosed through outreach) and duration of pre-treatment symptom. They distributed the leaflets and discussed likely symptoms with individuals, households, schools, popular gatherings and community groups in the villages and encouraged symptomatic patients to visit the outreach clinic or the nearest health facility. Outreach visits were made once a month to each intervention area by the health workers. Suspected cases gave their first spot sample of sputum at the outreach site and then the sample was transported to a diagnostic service centre. The early morning and second spot samples were collected the next day. A logbook with number of suspected cases, number of sputum samples collected, and number of smear positive cases was maintained. Free treatment (DOTS) was provided to all confirmed smear positive TB cases at the diagnostic centre or the nearest health facility according to the patient's preference.³⁰

Table 3. Market Mix Strategies for the case detection of tuberculosis in Ethiopia

P's	MARKETING STRATEGIES
PRODUCT Core: • Benefits of the behaviour Actual: • Behaviours and features of behaviour Augmented: • Tangible objects and services	• From testing for TB: peace of mind • From taking drugs: getting well • Get tested for TB and receive DOTS therapy • Free DOTS therapy • Free counselling by health workers and community promoters
PRICE Monetary and nonmonetary incentives	• Free DOTS therapy for confirmed smear positive TB cases at the diagnostic centre or nearest health facility according to patient's preference
PLACE Access to tangible objects and services	• Health centres • Health stations (both health facilities performed sputum AFB microscopy) • Monthly diagnostic outreach clinics in the community • Home visits by community promoters for awareness of TB and health promotion
PROMOTION Key Messages Key Messengers Key Media Channels	• Simple and locally understandable messages about TB describing its cause, spread and main symptoms • "With proper treatment, TB is curable" • Health extension agents or CHWs – nurses and health officers • Community promoters • Print media: Posters and leaflets • Special events: popular gatherings, other community-based activities • Personal communication: community promoters • Advocacy: community leaders

Results:



WHO 05.148

Fig.2. Profile of evaluation study in 2 districts in Southern Ethiopia³⁰

In a study conducted in 2003 to evaluate the effectiveness of case-detection through this intervention, the outcomes were evaluated by following up the patients during their treatment. The outcome measures were case notification rate, duration of pre-treatment symptom and treatment outcome in terms of success, default and death.³² Treatment success was defined as smear negative on treatment completion and an additional smear negative on at least one previous sputum sample. Treatment without confirmation without sputum microscopy was also considered as treatment success. “Default was defined as interruption of treatment for more than eight consecutive weeks after a minimum of four weeks on treatment.” “Treatment failure was defined as remaining or recurrence of smear-positive TB at five months or later during treatment.”³⁰

Among the baseline characteristics of the communities, it was found that 48.4 percent from the intervention group and 54.3 percent from the control group resided within 2 hours walk of a diagnostic facility. The results after one year showed that there

was improved rate in case detection but not in the extent of case-detection of smear-positive TB. The case notification rate in the intervention group was higher than that of the control group by one-third but was not statistically significant.³⁰ Duration of pre-treatment symptoms reduced in the intervention group with each quarter of the intervention but there was minimal variation in the control group and this association was found to be statistically significant..³³ All other differences that were found between the intervention group and the control group, for example, treatment success rates, defaulter rates, failure rates and deaths showed no statistical significance.³⁰

Strengths - This intervention was a variation of active case-detection. The outreach clinics brought better access to health services to the patients which addressed the long travel to a health facility of patients. Community promoters made regular visits to the houses of suspected symptomatic cases which increased awareness and ensured that the patient experiencing the symptoms would visit the outreach clinic or consult a health provider .³⁰

Weaknesses – According to the results, it was seen that only the rate in case detection increased but not in the extent indicating that the poor access to health centres may not have been tackled. For treatment purposes, the patients still had to visit a health facility meaning that they would still need to endure the burden of time and distance related to travel. This intervention did not account for this.³⁰

Challenges – Broader studies were not conducted to determine if this intervention produced a significant effect.³⁰

MYANMAR: Social franchising of TB care by private GPs

Purpose: To provide free or minimal cost TB care to the lower socioeconomic groups in one of the poorest countries of the world.

Objective: To provide high quality subsidized TB diagnosis and treatment via a social franchise programme through private general practitioners to control TB.

Situation: Myanmar is one of the least developed countries in the world and has a high TB burden.³⁶ The lower socioeconomic groups have limited access to healthcare leading to large delays in diagnosis. Although the National TB Programme established diagnostic and treatment services, the treatment success rate of 81 percent and case detection rate of 83 percent was questionable.³⁷ Moreover, the large private health sector did not follow the prescribed treatment guidelines and failed to provide the case notification number to the National TB Programme.³⁸

Target audience: Low socioeconomic groups in Myanmar

Period of intervention: Since March 2004 till present

Process of intervention: Population Services International (PSI), Myanmar established an SQH franchise and selected full-time licensed GPs with existing clinics who serve low socioeconomic groups. PSI provides a training course, posters, leaflets and signboards for use in the clinics, promotion of SQH products and access to branded, high quality products at free or subsidized costs. The private GPs maintain clinical records for respecting service standards. A price structure offers them small margins but ensures affordable services to low socioeconomic groups. The SQH network provides its services in coordination with the National TB program functioning in specific public-sector facilities. PSI worked with the National TB program and trained selected private laboratories for sputum microscopy. Franchise officers conduct monthly visits to GPs to resupply products and resolve any problems. GPs are given continuous training on-the-job through seminars on topics like diagnostic challenges and management of adverse drug effects. They are supported with a “hot-line” to resolve clinical problems which

could be shared through the franchise network. To ensure that GPs maintain quality, periodic mystery client surveys are performed and those franchisees not meeting basic standards of quality are withdrawn from the franchise network. GPs Diagnosis and prescribing and dispensing free medication as per national guidelines, follow up, maintaining patient records, appointing a caregiver and reporting defaulters to the franchise officer (refer Table 4 for further details).³⁶

Table 4. Market Mix for social franchising of tuberculosis care in Myanmar

P'S	STRATEGIES
PRODUCT Core: • Benefits for the behaviour Actual: • Behaviours and features of behaviour Augmented: • Tangible objects and services	• From testing: peace of mind • From taking drugs: getting well • Get tested and take all drugs • DOTS therapy • adequate supply of drugs • free TB diagnostic and treatment services
PRICE Monetary and nonmonetary incentives	• Free sputum smear examination • Free anti- TB drugs and supplies (DOTS' branded patient kits)
PLACE Access to tangible objects and services	• Free consultations with private general practitioners
PROMOTION Key Messengers Key Media Channels	• Private General Practitioners • National Tuberculosis Programme • Mass media: 60-second TV airing of logo branding SQH and DOTS on national television; Signboards • Print material: leaflets, posters • Others: promotional items and forms

Result: This intervention was assessed in terms of treatment results, quality, access, equity and financial protection for low socioeconomic groups. The SQH franchise alone

contributed a 21 percent increase in new smear positive TB cases reported to the National TB Programme in the study towns.³⁶ The treatment success rate for new smear positive cases was 84%, close to the WHO target of 85% and it was 87% for overall cases.³⁶ The treatment success rate for those of higher socioeconomic status were found to be more than that of the lower socioeconomic status and a treatment success rate of 83% was acceptable for the lower socioeconomic status.³⁶ The treatment success rate for new smear positive cases among the lower socioeconomic status was 79%.³⁶ The median total delay to treatment was 3.7 weeks to an SQH General practitioner as opposed to 6-13 weeks as reported in several other studies on TB treatment delay.³⁶ Patients who directly consulted with an SQH GP and thus avoided longer duration to treatment had significantly lower median cost burden by 15% as compared to those who had sought care with other providers first.³⁶

Strengths: Owing to the subsidized rates of the social franchise program in terms of free medication and negligible costs of tests and consultation, the low socioeconomic groups were protected from huge healthcare expenditures. Along with an increase in the treatment success rate, these results were found to be reliable as compared to the previous statistics which had been deemed questionable.³⁶

Weaknesses: Although this social franchise program managed to deliver high quality care there were still some delays to treatment reported and these were found to be from the provider's side and not from the patients seeking healthcare. The objective of providing high quality service to poor socioeconomic groups and financially protecting them will be unmet by sustaining social franchising with user fee charges.³⁶

Challenges: Even with free treatment, it was found that the major costs were incurred in transport, lost wages and drugs other than TB medication. Large number of costs were also found to be incurred before a patient reached an SQH GP. The challenge here is to

widely make the public aware of this social franchise intervention to allow for them to consult with an SQH GP at the earliest to prevent them from incurring costs prior to this.³⁶

INDIA: Operation ASHA – a tuberculosis elimination effort through a social enterprise

Purpose: Stop the spread of TB in people in slums and villages

Objective: To implement awareness and preventive measures such as free treatment, counselling, education and supportive services to stop the spread of TB in disadvantaged communities

Situation: In 2005, around 3.5 million Indians, mostly of who were poor and malnourished constituted 21 percent of the global burden of TB cases, and of those around 1,000 die every day.³⁹ The Government of India has been addressing this public health challenge with the help of RNTCP. However, the programme was not faring well in poorer areas where the need to administer DOTS programme is the highest.³⁹

Target audience: People in slums and villages in India

Period of intervention: Since 2005 till present

Process of Intervention: Operation ASHA (which means “hope” in Hindi) founded in India in 2005 with over two-hundred and fifty centres in nine Indian states, is the largest non-profit organization aiming to eliminate TB in India (refer Table 5 for further information). Operation ASHA serves 6.05 million people in more than 3,000 slums and villages. Operation ASHA’s management information systems foster continuous monitoring and rigorous reporting.³⁹

Table 5. Marketing mix strategies of Operation ASHA for tuberculosis elimination in India

P'S	STRATEGIES
PRODUCT Core: • Benefits for the behaviour Actual: • Behaviours and features of behaviour Augmented: • Tangible objects and services	• From testing: mental peace • From taking medication: getting well • Get tested and take medication properly • DOTS therapy • Sufficient supply of drugs • Counselling for patients
PRICE Monetary and nonmonetary incentives	• Procurement of anti-TB medication conveniently and discreetly without loss of time on travel and loss of money from wages from lost time at work • Free counselling
PLACE Access to tangible objects and services	• Convenient locations of DOTS treatment centres including those at health clinics and religious centres • Family visits by counsellors
PROMOTION Key Messages Key Messengers Key Media Channels	• Symptoms of TB are explained • Trained and respected community members as counsellors • Special events: Tuberculosis awareness meetings through community mobilization, TB awareness camps • Personal communication: counsellors • Community mobilization: counsellors • Advocacy: local government

Operation ASHA's success is owed largely to the conveniently located DOTS treatment centres including those at health clinics and religious centres. Patients can procure TB medication conveniently without wasting time and money on transportation or loss of wages. Operation ASHA works with the community by hiring and training

respected community members who have some education to serve as counsellors in DOTS treatment centres. These counsellors provide TB medication, ensure adherence to and completion of the rigorous six to nine-month treatment regimen, counsel patients and their families, and detect new TB cases in the community.³⁹

Every counsellor is expected to visit three families a day to explain symptoms and to identify potential patients. Also, counsellors help patients deal with the stigma surrounding the disease that threatens the livelihoods, family acceptance, and educational opportunities of their patients. As a community-based approach, counsellors mobilize the community for TB awareness meetings usually sponsored by the government and each centre holds one meeting in a year. Operation ASHA has conducted approximately forty awareness camps so far.³⁹

Results: Across all centres, Operation ASHA achieved cure rates of more than 90 percent and doubled detection rates in disadvantaged areas. The reported default rate is only 2.75 percent in Operation ASHA as compared to other non-profits and RNTCP.³⁹ Majority of the remaining percent continue the seven-month treatment regimen, virtually eradicating MDR-TB and these figures outperform the requirements of WHO.³⁹

In 2015, they successfully treated 50,000 TB patients and served more than 3,000 communities living in slums and villages.⁴⁰ The intervention claims a cure rate of 85%, and one in three symptomatic cases is identified as sputum positive.⁴⁰

Strengths: They produced excellent results at an affordable price. The detection rate is higher in areas served by them. It distributes other health and wellness products like painkillers, antacid tablets and anti-emetic tablets to reduce the side effects of TB treatment. The costs are kept low by paying community members to act as providers and stock TB drugs at their centres. The programme uses established institutions as TB

treatment centres, thus averting the cost of constructing new buildings. By operating within community frameworks and collaborating with existing institutions, they had lowered average per-patient costs which is nineteen times lower than that of other TB control organizations. By increasing the productivity of cured patients, Operation ASHA saves the Indian Economy about US\$2 million a year in lost wages.³⁹

Weaknesses -The outcome-based remuneration, poor institutional support, the rigid hierarchy of the health system; and failure to elicit poor participation at the community level were limitations.³⁹

Challenges – Lack of research to determine the impact of this intervention, lack of tracking of migrants and lack of collaboration with government programs.⁴⁰

[KENYA: MDOT \(Mobile Direct Observation of Treatment\) model for expansion of DOTS programme to TB patients](#)

Purpose: To expand the reach of DOTS programme to tackle burden of travel incurred on daily administration of DOTS.

Objectives:

- 1) To expand DOTS programme by employing the MDOT model to reduce the travel burden on patients, their caregivers as well as healthcare workers in Nairobi, Kenya.
- 2) To provide a means of support and motivation for the patients to improve compliance and reduce defaulting.

Situation: Kenya had emerging mobile technology advances which could help focus treatment services to under-served populations at risk of having TB.⁴¹

Target Audience: Patients diagnosed with smear positive TB

Period of intervention: From 2008 to 2009

Process of intervention: A pilot intervention - MDOT was established in Nairobi. From the Mbagathi District Hospital in Nairobi, three healthcare professionals, thirteen patients from their TB clinic and their caregivers were recruited for this pilot intervention (refer Table 6 for further information). Patients who were then undergoing DOTS therapy were provided with video-enabled mobile phones and their care givers were instructed to capture videos of the patient taking their dose each day. These videos were then sent to the healthcare workers every day which goes to a secure central database where it automatically logs the date and time. Medical nurses reviewed these videos from Monday to Friday. Patients were also sent motivational messages and TB related health education via text and video messages. Patients received at least one video message and four text messages every week. The video was five to nine seconds in length. The health messages consisted of vignettes with testimonials from cured patients, advice from doctors and messages on prevention of TB. Patients filled questionnaires about their initial experiences, 15 days and 1-month post-intake. These questionnaires contained open-ended questions as well as questions which required a response falling on a scale 1-5 (5 being very positive), for example, level of comfort with the technology, receptiveness to various kinds of health messages and their preference of MDOT over other DOTS services.⁴¹

Table 6. Market Mix Strategy of MDOT model for the expansion of DOTS programme in Kenya

P'S	STRATEGIES
PRODUCT Core: - Benefits for the behaviour Actual: - Behaviours and features of behaviour	- From using a mobile video feature: decrease the travel burden on patients and care providers - From taking drugs: getting well - Gaining knowledge and awareness on TB - To ensure drug compliance

Augmented: Tangible objects and services	Video-enabled mobile phones provided to patients taking anti-tubercular treatment
PRICE Monetary and nonmonetary incentives	- Free video-enabled mobile phones for patient's drug compliance monitoring - Travel avoided by the patient, caregiver and healthcare worker
PLACE Access to tangible objects and services	At patient's residence
PROMOTION Key Messages Key Messengers Key Media Channels	- Messages on prevention of TB - Treatment supporter (relative or friend) - Medical nurses - Recovered TB patients - Respiratory Doctors From video-enabled mobile phones: - Video captured by caregiver of patient consuming their dose of TB medication each day sent via MMS to a central database - At least one video message (MMS) and four SMSs with health messages every week with vignettes of testimonials from cured patients, advice from doctors and messages on prevention of TB

Results:

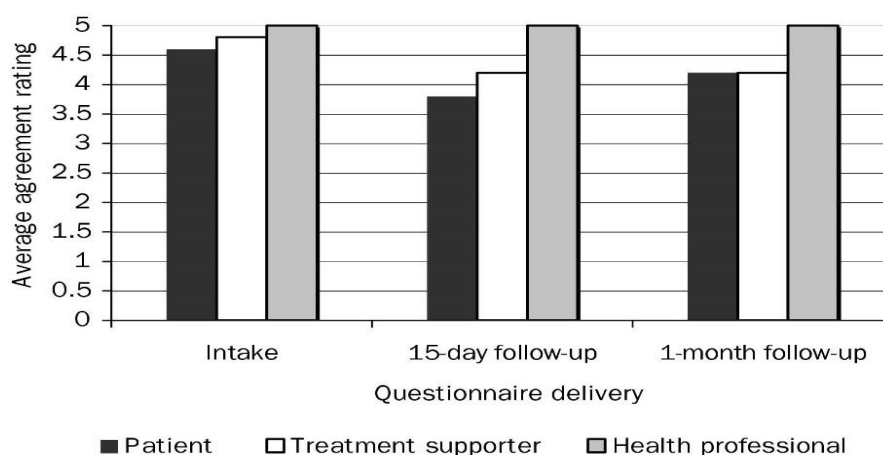


Fig 3. Average rating of agreement on the following statement: “recording people while they take their medications is a good option instead of meeting with someone in person”.⁴¹

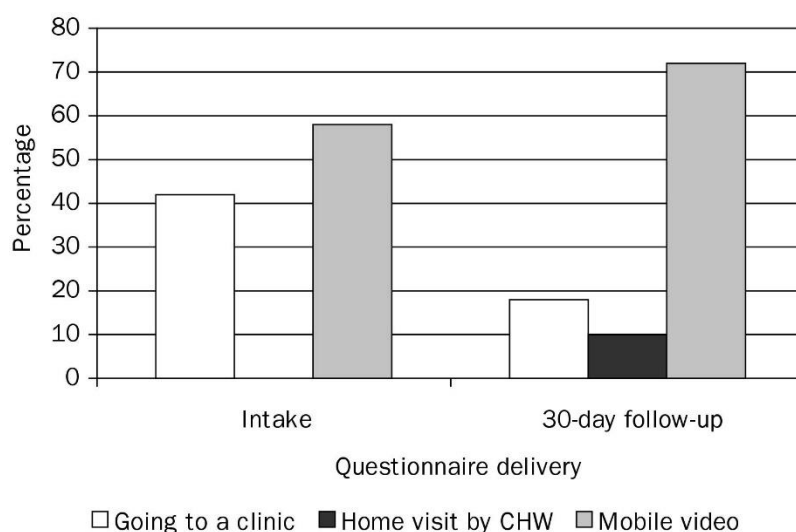


Fig 4. Patient's preferred mode of DOTS therapy⁴¹

A study survey assessed the technical feasibility of MDOT in terms of receptiveness by the patients and healthcare workers. It further assessed the patients' preferences and receptiveness to receiving TB-related health messages on the mobile phones. An estimated 25 percent of expected videos were not received due to technical related failure in transmission, 15 percent for unknown reasons and 10 percent due to loss of phones. One patient was lost to follow up and was identified by the MDOT monitoring system when his videos were not received. He was thought to be at risk for treatment default. (This patient was traced to a local jail and a plan was developed by the nurses to restart the DOTS) All the videos received were functional with minor issues of clarity and distance and sometimes due to network congestion the videos had to be resent. According to Figure 3, at mid-trial, patient preference to MDOT slightly decreased. This decrease was assumed to be due to early technical issues and once these were resolved, the comfort levels are seen to increase by the end of the trial. Overall patient ratings at

the end of the trial were above 4, indicating preference to MDOT over meeting a healthcare worker in person to take their medication. According to Figure 4, at intake, almost 60 percent of respondents said they would prefer MDOT over going to a clinic to receive treatment. This was further enhanced by the end of the 30-day trial showing over 70 percent preference towards MDOT while the preference of visiting a clinic dropped down to below 20 percent. The rating of health messages revealed that patients preferred personal testimonial messages as compared to other health message videos in both mid- and end-of-trial surveys. With regard to this, three prominent messages were highlighted from the responses: 1.) Patients did not feel isolated thereafter 2.) they accepted health messages and 3) gave importance to reminders. As also observed from figure 3, all three healthcare professionals found MDOT to be the preferred method over other the alternatives.⁴¹

Strengths – This intervention greatly reduced the travel burden on patients and healthcare professionals involved in delivering a DOTS programme. It could indirectly tackle any shortages in the healthcare workforce. Personal communication between the patients and healthcare workers on a timely, ad hoc manner made them both feel empowered. Patients revealed that they felt cared for by someone and were more optimistic towards getting cured. The nurses on the other hand, had a high level of receptivity as, according to them, MDOT provided higher proactive care and timeliness in handling real-time needs like adverse drug effects or counselling towards treatment default.⁴¹

Weaknesses – The nurses reviewed the videos only from Monday to Friday which left the weekends unobserved. This may lead to a slight additional delay in identifying potential defaulters.⁴¹

Challenges - The intervention was confined to testing technical feasibility alone and the results could not be generalized. Since the internet access and IT system was shared with

the hospital, there were challenges with reliability due to competition for bandwidth which led to intermittent slowing of systems. This emphasized the need for a centralized model through a separate, dedicated IT and personnel resources to improve quality of service. Caregivers not always being available to capture videos was another challenge.⁴¹

DISCUSSION

On reviewing the major social marketing interventions in the control of TB in the developing countries, Peru, Columbia, Ethiopia, Myanmar, India and Kenya, the following observations were made:

1. Communication strategies carried out through social marketing efforts by focusing on the goals and objectives of the existing national TB program helps to identify more number of TB cases and cure a higher number of patients to advance towards achieving the global targets of TB control. As evidenced in Peru, increased awareness as an effect of the campaign led to higher case detection and better cure rates. New challenges that emerged included MDR-TB and co-infection with HIV/AIDS. There was a need for increased funding to finance treatment of MDR-TB and this could increase the existing goal to 100% detection rate of TB cases. Alternate methods to increase TB detection rate would supplement existing control programmes by focusing on high risk populations with more community-based surveillance programmes.¹⁹
2. Mass media health education campaigns done in collaboration with Public Health organizations and non-governmental organizations lead to increase in notification, diagnosis and treatment of smear positive cases. This was achieved due to rise in demand for direct smears observed post the mass media health education campaign as in the case of an intervention conducted in Cali, Columbia. Prior to the intervention, the people of Cali did not demand smear tests as they lacked basic knowledge of TB

and the procedures for demanding such tests. Diagnostic coverage can be increased by providing basic information about the early symptoms of TB and the procedure for diagnosis and treatment and their costs. This would strengthen the effect of control programmes with higher rate of cure. However, the effects of the campaign were short-lived as it did not have long term plans for sustainability and lack of political will from the Ministry of Health in Columbia. Also, there was a lack of resources for conducting standard evaluation research studies. This reinforces the fact that mass media campaigns must be delivered for a longer duration until the changes in perception of the community towards risk of TB are culturally imbibed. As seen in this study, the impact evaluation research demonstrated that passive case finding with the help of public healthcare institutions is insufficient to reach the targets for diagnostic coverage and it also demonstrated that providing information like early symptoms of TB, costs and available facilities for diagnosis and treatment through mass media enables individuals to demand direct smears and thus increase case detection. This emphasizes the fact that active case finding by extending diagnostic services to the community by providing awareness on TB and its diagnostic and treatment services would be more effective in case detection.²⁴

3. Community outreach activities in collaboration with local health facilities increased the opportunity for rural communities to access TB care with CHWs, diagnostic outreach clinics and utilization of diagnostic services as in the case of an ongoing intervention in Ethiopia. The problem of access to healthcare facilities by people was tackled with the help of outreach clinics providing diagnostic and treatment services and with CHWs personally visiting patients' households to impart awareness of TB among the patients and their family members. However, the results of the intervention could not be generalized as large-scale impact evaluations are necessary to determine its effect along with cost effectiveness analysis.³⁰ Perhaps another method to tackle

the problem of access would be to attempt the MDOT model as in the case of Nairobi, Kenya.⁴¹

4. Social franchising of TB care to lower socio-economic groups by private GPs provided high quality subsidized diagnostic and treatment services for TB. This led to increased TB case notification, financial protection of people from high health care expenditure and high treatment success rates as observed in Myanmar. However, sustainability of this intervention could decline by employing user fee charges. Outreach services extended to other areas of the private sector could further decrease delay in diagnosis and healthcare costs incurred by patients.³⁶ This intervention could be attempted in countries with high out-of-pocket expenditures for healthcare and no national health or medical insurance schemes in place to financially protect people from large healthcare costs.
5. Operation ASHA, a TB elimination intervention employed to stop transmission of TB among poor communities with the help of counsellors, free treatment, health education and supportive services was successful due to its conveniently placed locations for DOTS treatment centres. It achieved higher case detection rates and lower healthcare costs as in the case of India. However, the ASHAs were limited with outcome-based remuneration, poor institutional support, health system hierarchy and reduced participation at the community level.³⁹ For further success of the intervention, there must be collaboration with government programs, a tracking system for migrants and research to determine the impact of the intervention.⁴⁰
6. MDOT model employed to expand the access of DOTS programme reduced travel burden for patients and health workers with the use of mobile phones. It was found to be technically feasible and acceptable by both patients and healthcare workers as in the case of a pilot project done in Nairobi, Kenya. However, this intervention was

confined to testing technical feasibility alone and its results could not be generalized.⁴¹ This could probably be owed to the fact that a small sample size for the pilot study was used. However, this intervention can perhaps be replicated in hospitals within Kenya with a similar setting. It was found to succeed in terms of comfort and receptivity among patients and healthcare workers. There was a drop in the comfort mid-intervention due to technical issues with the mobile. Further evaluation research should be done to determine whether MDOT improves medication adherence, its cost-effectiveness and usefulness in improvement of treatment compliance for TB to attempt such an intervention in larger settings. A centralized model is required to improve the service with scope for wider availability of low cost phones and increasing mobile technology. The authors claim that MDOT can be implemented in developing countries with mobile applications designed to address tuberculosis by utilizing the growing video-enabled mobile phone industry and data service.³⁰

Some common observations in the social marketing interventions discussed could be recognized. Some P's of the strategic social marketing mix were not distinctly employed, and some were more emphasized than others in attaining success of certain interventions. However, some elements of the strategic marketing mix are more important for other countries to adopt according to the social marketing intervention. Some of the interventions were scaled up and exist currently whereas others were confined to a limited period of activity and with suboptimal research studies done to assess their impact and outcomes. Incorporation of private hospitals and media houses using social marketing practices aligning with the activities of TB control programme, particularly in the context of current healthcare reform being developed in developing countries, is fundamental to strengthen the impact of these programmes.

Investments are needed for evaluation research to determine impact of social marketing interventions and strengthening monitoring and evaluation in the control of TB to scale up and replicating effective social marketing strategies in areas of similar context.¹ Research exploring social marketing interventions in the control of TB is considerably less. Better documentation of results, substantial financial investment and impact evaluation research is essential to propose and implement strategic social marketing interventions in the control of TB in developing countries.⁴¹

CONCLUSION

This project identified and reviewed major social marketing interventions in the control of TB in developing countries to understand its functioning, strengths, weakness, challenges and the way forward. There is a shift of focus on social determinants in the efforts of reducing the burden of TB.¹⁵ This would be help advance towards achieving one of the Sustainable Development Goals of ending the epidemic of TB by 2030.¹² It was found that social marketing helped improve case notification, diagnosis and treatment leading to improved health behaviour and better health outcomes which could be applied in other developing countries with high TB burden.

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