

DEVELOPING AN ADAPTED DIRECTLY OBSERVED TREATMENT PROGRAMME FOR TUBERCULOSIS USING AN INTERVENTION MAPPING APPROACH

**DEPARTMENT OF HEALTH RESEARCH DAY
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TB IN LIMPOPO PROVINCE

- Limpopo not yet met the WHO targets
- High rate of MDR TB in Limpopo at 2.4% for new cases and 6.8% for retreatment cases (MRC MDR TB Survey 2002)
- TB/HIV co-infection rate 70% globally; 65% in SA and 62% in Limpopo Province.
- Limpopo provides TB services at all government facilities free of charge
- Limpopo implements the DOTS strategy
- Standardised treatment protocols and guidelines followed in TB management.

LIMPOPO PROVINCE TREATMENT OUTCOME: NEW SMEAR POSITIVE CASES: 2004 - 2010

Year	Cure rate (%)	Treatment success (%)	Death rate (%)	Failure rate (%)	Defaulter rate (%)	Transfer rate (%)	Not evaluated (%)
2004	63.5	74.8	7.4	1.4	5.1	6.9	4.4
2005	57.2	68.6	8.7	2.0	8.6	8.8	3.5
2006	60.4	70.4	8.7	1.7	8.0	8.7	2.5
2007	62.2	71.8	9.0	2.5	7.4	7.5	1.5
2008	66.9	74.0	9.0	2.3	8.1	6.3	0.4
2009	70.2	74.4	9.2	1.9	7.7	5.8	0.9
2010	73.3	75.6	9.0	2.6	6.3	5.2	1.3

PROBLEM STATEMENT

- TB control in Limpopo remains a challenge. Despite the fact that the province has been implementing the DOT programme for the past decade, following the National TB Control Programme guidelines and protocols, and implementing DOTS, TB detection rates and outcomes remain low.
- The TB programme in the province does not have a formal DOT programme to follow in the implementation and administration of DOT, which is why the current DOT programme needs to be adapted to improve the TB indicators in Limpopo province.

PURPOSE AND OBJECTIVES

- **Purpose:**

To develop an adapted Tuberculosis Directly Observed Treatment (DOT) programme to improve TB control in Limpopo province.

- **Objectives:**

- To critically analyse the effectiveness of the existing TB DOT programme in Limpopo Province, South Africa.
- To identify psychosocial and environmental correlates of non-adherence to treatment in the current TB DOT programme in Limpopo Province, South Africa.
- To develop an adapted TB DOT programme in Limpopo Province, South Africa.
- To validate the developed programme.

METHODOLOGY

- Setting – Limpopo Province: South Africa
- Design – Qualitative
- Population – Health Care Workers (HCWs), DOT Supporters (DSs) and TB patients in Limpopo province
- Ethical clearance – University of Venda and Department of Health: Limpopo Province
- Sampling – Purposive and convenient sampling. Two crisis districts, Mopani and Capricorn.
- Data collection – Focus Group Discussions and in-depth interviews using semi-structured interview guides.
- Data analysis – verbatim transcriptions from audiotape and manual analysis

Limpopo

Department of Health & Social Development



Legend

Hospitals by type

- Red cross: District Hospital
- Green cross: Psychiatric Hospital
- Blue cross: Regional Hospital
- Star: Tertiary Hospital

Communities

- White box: Local municipality boundary
- Light blue box: Districts
- Pink box: Capricorn
- Light green box: Greater Sekhukhune
- Light purple box: Mopani
- Light blue box: Vhembe
- Yellow box: Waterberg



POSITIVE FINDINGS

- Facility Based DOT and Community Based DOT implemented in the province.
- DOT is an enabler in helping patients to complete treatment and be cured
- Trained DSs utilised to provide DOT
- DSs are happy to assist their communities
- HCWs and patients appreciate DSs' contribution to positive outcomes

CHALLENGES IDENTIFIED

- Late presentation for treatment
- Patients seek traditional medicine and visit Private Practitioners (PPs) first
- Late referral by Traditional Health Practitioners (THPs) and PP
- Patients discontinues medication and default
- Low index of suspicion by HCWs
- Lack of stipends for DSs
- Stigma
- Non-integrated TB and HIV treatment
- Non-supportive HCWs to DSs and patients
- Patients refuse DOT supervision
- Lack of sufficient DSs
- Long waiting times at the health facilities
- Transport costs
- HCWs overburdened

STEPS OF THE INTERVENTION MAPPING APPROACH

Based on the Intervention Mapping Approach by Bartholomew et al. with its six steps, namely:

- Needs assessment
- Preparing matrices of change objectives
- Selecting theory-based intervention methods and practical strategies
- Producing an intervention programme
- Planning programme adoption, implementation and sustainability
- Planning for evaluation

PLANNING THE NEEDS ASSESSMENT WITH A LOGIC MODEL ADAPTED FROM PRECEDE

Phase 3 –
WHY?

Determinants
(Predisposing,
enabling and
reinforcing factors)



Phase 2 – *What factors cause or contribute to the health problem?*

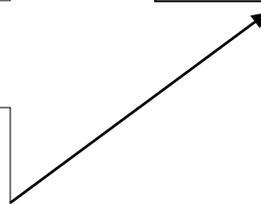
Behavioral
Factors



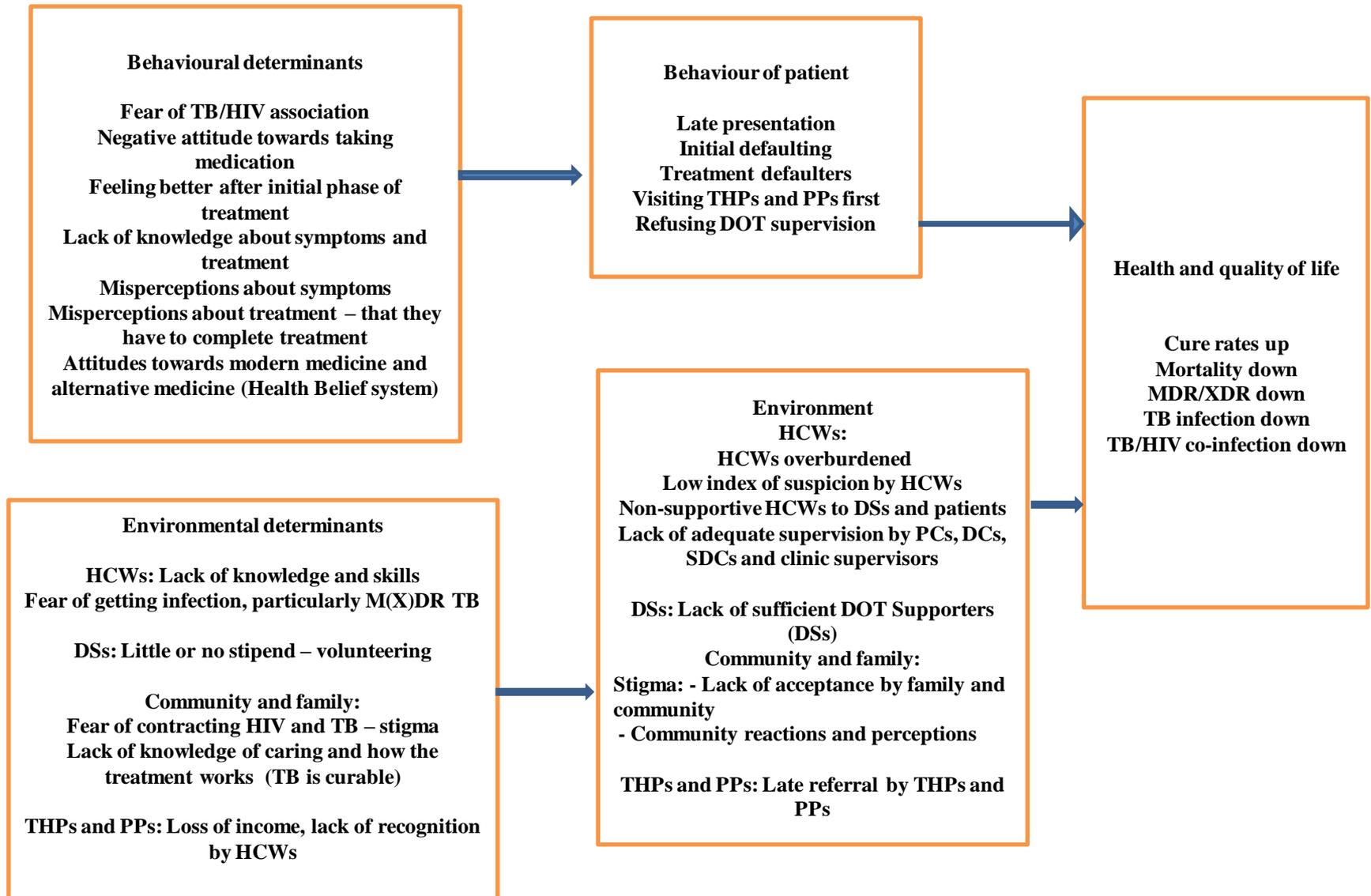
Environmental
Factors

Phase 1 – *What is the health problem and its quality of life effects?*

Health Problems and
Quality of Life



APPLICATION OF THE PRECEDE MODEL



DETERMINANTS AND PERFORMANCE OBJECTIVES FOR A PATIENT'S BEHAVIOURAL FACTORS

DETERMINANTS	PERFORMANCE OBJECTIVES
<p>Knows: that coughing is associated with infectious TB; the signs and symptoms of TB; that TB is curable; that treatment is free; the purpose of sputum tests</p> <p>Knows: there are positive outcome expectations of treatment (a positive HIV diagnosis is not a death sentence); the association of TB and HIV is a cue to get HIV diagnosis and treatment; that respectful care will be received from clinics</p> <p>Knows that: patients can access care from traditional healers and clinic concurrently; confidentiality is guaranteed; family and community can be counselled to accept them</p> <p>Describes social norms of being able to discuss illness and get care; Feels positive about modern medicine and treatment.</p> <p>Is prepared for feeling better; Is supported to sustain treatment</p>	<p>Late presentation: Immediately seeks care at the facility after two weeks' of coughing; Presents / explains all symptoms experienced to the clinic; Provides a sputum specimen to the clinic Returns for results; If tested positive for TB, gets tested for HIV; Discloses TB and HIV status to partner and family.</p>

MATRIX OF CHANGE OBJECTIVES FOR PATIENTS

Performance Objectives	Knowledge (K)	Outcome Expectations (OE)	Attitudes (A)	Reinforcement (R)	Perceived Social Norms (SN)
<p>1. Immediately seeks care at the facility after two weeks’ of coughing</p>	<p>K.1.a. Describes that coughing is associated with infectious TB and what that means</p> <p>K.1.b Describes the association between TB and HIV.</p> <p>K.1.c. Identifies signs and symptoms of TB.</p> <p>K.1.d. Relates that TB is curable and that effective treatment is free</p> <p>K.1.e. Describes the purpose of sputum test</p>	<p>OE.1.a Expects that if diagnosed with TB it is not a death sentence;</p> <p>OE.1.b. Expect that the association of TB and HIV is a cue to get HIV diagnosis and treatment;</p> <p>OE.1.c. Expects respectful care from clinics</p> <p>OE.1.d. Expects that the HCW will accept that they obtain care concurrently from traditional healers and clinic</p> <p>OE.1.e. Expect that the HCW and DS will maintain confidentiality;</p> <p>OE.1.f Expect that the family and community will accept them despite a diagnosis of TB and/or HIV.</p>	<p>A.1.a. Expresses positive feelings about modern health care – in particular TB and HIV care.</p>	<p>R.1.a. Experiences reinforcement from HCW for going for testing;</p> <p>R.1.b. Experiences reinforcement from DS for going for testing;</p> <p>R.1.c. Experiences reinforcement from family for going for testing.</p>	<p>SN.1.a. Recognizes that family members expect patient to go for TB testing when they have been coughing;</p> <p>SN.1.b. Expect that family members would go for testing if they have developed coughs</p> <p>SN.1.c. Recognizes that HCW expect patients to go for TB testing if they have been coughing for two weeks</p> <p>SN.1.d Recognizes that friends and peers in the community consider the signs and symptoms of TB seriously</p>

PROGRAMME COMPONENT FOR CHANGING PATIENT BEHAVIOUR

Activity	Theoretical Methods	Possible materials and practical strategies	Performance and Messages
Health education with regard early presentation	<p>Programme advocacy</p> <p>Counselling including value clarification</p> <p>Observed-in-session</p>	<p>Media like TV advertisements</p> <p>Radio talks</p> <p>Print media</p> <p>Pamphlets</p> <p>Posters</p> <p>Promotional materials, for example, key holders, caps, T-shirts</p>	<p>Early diagnosis leads to early institution of treatment</p> <p>TB is curable</p> <p>Complete your treatment</p> <p>Kick TB out of Limpopo</p>
Counselling sessions to patients by HCWs before starting treatment	<p>Persuasive communication</p> <p>Skills training in communication</p> <p>Value clarification</p> <p>Vicarious conditioning</p>	<p>Media like TV advertisements</p> <p>Radio talks</p> <p>Print media</p> <p>Pamphlets</p> <p>Promotional materials, for example, key holders, caps, T-shirts</p>	<p>TB is curable</p> <p>TB treatment is free at all government facilities</p> <p>Stop TB – complete your treatment</p> <p>Stop TB because you can</p> <p>Use DOTS to stop TB</p>

PROGRAMME FRAMEWORK FOR PATIENTS

Objectives	Activities/ tasks to be accomplished	Responsible persons/ implementers	Resources	Duration	Budget
Identification of training needs for patients	What type of training is required for improving treatment adherence and the TB DOT support for patients? For example: Workshop to identify areas for training - -	Who are the stakeholders responsible for implementing the activity? For example: DCs SDCs Patients - -	What resources are needed to implement the activities to be achieved? For example: Human resources - -	How long should the activity take to be completed? For example: 16 hours - - -	What budget is needed for this activity? For example: R600 x 2 days x 30 participants = R36 000 - -

RECOMMENDATIONS FOR THE HEALTH SYSTEM

- Adoption and implementation of the programme by the Limpopo Department of Health TB programme
- Adoption of one Community Care Giver who is trained to render a comprehensive service
- Implementation of a standardised stipend to Community Care Givers
- Full integration of TB and HIV services in the province
- Adopt user friendly policies such as implementing the fast queue for patients
- Provide opportunities for capacity building and skills development for all stakeholders providing TB care.

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