



### Model Alternative Strategies for Tuberculosis and Human Immune Deficiency Virus Case-Finding in Hard-to-Reach Populations in Rural Eastern Nigeria

*Stratégies alternatives pour la tuberculose et le modèle virus de l'immunodéficience humaine dépistage des cas dans dur-à-atteindre les populations dans les régions rurales de l'Est du Nigeria*

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#### ABSTRACT

**BACKGROUND:** Since roughly half of all cases of active tuberculosis (TB) and Human immune deficiency virus (HIV) infection currently go undetected, there is a compelling need to pursue research aimed at improving case-finding, particularly among hard-to-reach populations.

**OBJECTIVE:** To identify and simplify TB/HIV case finding in Eastern Nigeria.

**METHODS:** This study involved an extensive pre-intervention Knowledge, Aptitude, Behavioural, Practice (KABP) Survey which revealed the specific limitations to TB/HIV case-finding using semi-structured questionnaires, key informant interviews and focus group discussions. The second component investigated the role of existing strategies and resources in the study area, and identified ways of optimizing these strategies and also provided alternative strategies. The third phase evaluated the performance of the different strategies and the most effective methods of optimizing their use.

**RESULTS:** The pre-intervention KABP Survey showed that the majority of the population could ill afford the costs imposed by delays in TB/HIV diagnosis and treatment. Most of the patients dropped out completely at any stage on the path to successful treatment due to several reasons. Working at motor parks, accepted stop points and several other ways were found as effective methods of reaching the hard-to-reach population.

**CONCLUSION:** Findings from this study can be used for designing appropriate TB/HIV management and case-finding training materials for the training and use of TB/HIV health workers as well as providing information on TB/HIV case finding for National policy. Thorough consideration of the findings and subsequent implementation of them are highly recommended. *WAJM* 2011; 30(6): 417–420.

**Keywords:** Tuberculosis, Human immune deficiency virus, Case-finding, Hard-to-reach, Eastern Nigeria.

#### RÉSUMÉ

**CONTEXTE:** Depuis Environ la moitié des cas de tuberculose active (TB) et le virus d'immunodéficience acquise (VIH) actuellement passer inaperçue, IL YA un besoin impérieux de poursuivre recherche visant à améliorer recherche des cas, en particulier chez hard-to-atteindre les populations .

**OBJECTIF:** à définir et simplifier la tuberculose | trouver cas de VIH au Nigeria oriental.

**MÉTHODES:** Cette étude a impliqué une phase de pré-Intervention Des Connaissances, Aptitudes, Comportement, Pratique (CACP) enquête qui a révélé les limitations spécifiques aux TB/VIH cas d'enquête au moyen questionnaires semi-structurés, les entrevues et discussions de groupe. La deuxième composante a étudié le rôle des stratégies existantes et les ressources du secteur d'étude et identifié des moyens d'optimiser ces stratégies et a également fourni des stratégies alternatives. La troisième phase évalué la performance de Les différentes stratégies et méthodes les plus efficaces d'optimiser leur utilisation.

**RÉSULTATS:** L'enquête CACP avant l'intervention montrent que la majorité de la population pourrait difficilement se permettre les coûts imposés par retards dans tb / vih diagnostic et le traitement. La plupart des patients tout simplement arrêtées a tout moment sur le chemin de traitement réussi dû à plusieurs raisons. travail au moteur parcs, acceptées points d'arrêt et plusieurs autres moyens ont été trouvés aussi des méthodes efficaces d'atteindre la population difficiles à atteindre.

**CONCLUSION:** Les résultats de cette étude peut être utilisée pour concevoir la tuberculose Appropriée/VIH gestion et matériels de formation la recherche de cas pour la formation et l'utilisation des travailleurs de la santé TB/VIH ainsi que des renseignements sur la tuberculose / le VIH cas trouver de la politique nationale. un examen approfondi des conclusions et des mise en œuvre ultérieure d'entre eux sont fortement recommandé. *WAJM* 2011; 30 (6): 417–420.

**Mots-clés:** Tuberculose, Humain virus de l'immunodéficience, Le dépistage, hard-to-reach, l'Est du Nigeria.

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Abbreviations: HIV, Human immune deficiency virus; KABP, Knowledge, Aptitude, Behavioural, Practice; TB, Tuberculosis.

## INTRODUCTION

Tuberculosis (TB) and Human immunodeficiency virus (HIV) infections are a major global health problem responsible for more than 4500 deaths each day. A decade of intensified efforts at TB/HIV control has reduced global incidence except in Africa where the disease continues to rise driven by poverty.<sup>1</sup> Globally in 2004, the directly observed treatment short course (DOTS) treatment programme reached only 53% of the estimated 4.4 million sputum-smear positive TB patients.<sup>2</sup>

Presently, the DOTS treatment success rates remain well below target in some regions, notably in Africa and Eastern Europe.

Certain social groups, such as women, the unemployed and the homeless experience longer delays in achieving cure than TB-infected people in less vulnerable groups.<sup>3-7</sup> These groups include large numbers of poor people, who cannot afford the costs imposed by delays in diagnosis and treatment. A proportion of patients, particularly those from poor or vulnerable groups may drop out completely at any stage on the path to successful treatment.<sup>8,9</sup>

Barriers to accessing care have cascading effects on TB and HIV control: the longer the delay in case-detection, the more opportunities for transmission, the lower the treatment success rates and the more costs the patient has to bear especially in hard-to-reach populations. These populations include: poor people in remote rural areas, urban slum dwellers and other urban poor, including street children, and other homeless people, populations in conflict areas, HIV and TB positive population, orphaned children, migrant populations, refugees and asylum seekers, workers in exploitative employment situations such as miners, plantation workers, factory workers and sex workers, drug-users, incarcerated people and those released from prison.

Research on the factors limiting case detection at sites where TB/HIV screening occurs, (including schools, work places, health and other centers) and also locations providing testing and care, and hospitals will be necessary to identify appropriate outreach strategies.

Operational research and tests of

alternative design for detecting those with TB/HIV symptoms, and ensuring diagnosis and rapid entry into care, will be necessary to optimise case finding.

This study was aimed at building technical competence in TB/HIV case-finding techniques and to strengthen technical capacity in TB/HIV case-finding in resource constrained settings targeting the primary health care system for human health.

Results obtained from this research study will strengthen capacity for TB/HIV case-finding in the study area and improve the quality of TB/HIV case-finding and access to care in the locality.

## SUBJECTS, MATERIALS, AND METHODS

The purpose of the research was explained to the study subjects and participants on how they will benefit from the research. Written consent was obtained from the participants to participate in the research. Identification information of the participants was not included for confidential reasons.

**Study Population:** Given the prevalence of cases of TB/HIV infection in rural communities in Eastern Nigeria, a case study of Mbaise rural area of Imo state, Eastern Nigeria was developed. Imo state was chosen as it is one of the geographically diverse states that is endemic for TB/HIV in Eastern Nigeria.

**Pre-Intervention Survey:** An extensive pre-intervention survey KABP (Knowledge, Aptitude, Behavioural, Practice) survey which revealed the specific limitations to TB/HIV case-finding using semi-structured questionnaire, key informant interviews and focus group discussions.

The questionnaire contains questions for participants on their health, environment, basic socio-economic situations, existing TB/HIV case-finding strategies and resources in the area, limitations and problems militating against the performance of the different existing strategies and suggestions on the most effective methods of optimising the use of existing strategies as well as suggestions on new alternative strategies.

Study subjects which included

artists, health workers, health educators and researchers were invited to come together for one week to develop a range of printed materials for use in the TB/HIV control programme in the study area.

At motor parks and accepted stop points located in the different parts of the study area, through union leaders, drivers, touts and commuters, TB/HIV education materials were distributed to people at the park.

Use of rally during which the youth moved in a colourful procession going to different routes in the study area created a medium for the peer educators to reach 3265 people comprising of 1886 males and 1389 females in the buses and a lot more that could not be counted at different bus stops that have reached and gave education on TB/HIV before moving to the next stop.

Over 5000 information, education, and communication (IECs) materials on TB/HIV were distributed and commuters had the opportunity to ask questions and make clarifications on issues relating to TB/HIV using a project with the acronym "Operation WOWAT (War-on-wheels against TB/HIV)". Pre-intervention assessment was made with representatives of community based and grassroot organisations like women groups, age groups etc. Interviews were also conducted with the community leaders.

Fund raising activities for non-governmental organisations (NGOs) from communities' private and public sectors were highlighted as capacity building for sustainability of NGOs on TB/HIV in the study area. Given the prevalence of TB/HIV in the study area, visits were made to homes for interactions and interviews with members of the households to study their cultural, social and economic conditions. They were interviewed on their health and psychosocial needs, their emotional needs and how they coped with their environment. All age groups were selected and administered questionnaire.

Prior to administering questionnaire, two focus group discussions were conducted in a homogenous setting and topics discussed were based on the questions in the questionnaire.

## Model Alternative Strategies

The results obtained from this study

were used in the design, development testing, application and evaluation of selected TB/HIV information dissemination, education and prevention strategies in the study area to reveal the specific TB/HIV-related health knowledge and behaviours of the subjects. An intervention programme involving a broad-spectrum TB/HIV information dissemination programme, counseling, training and social marketing/distribution was made.

In order to develop a model integrated and culturally appropriate TB/HIV management and counseling training programme for primary health workers in government service and NGO setting, a short term training course was held in the study area which involved the application of the results of the community based survey on TB/HIV case-finding to the development of appropriate training programme for primary health care workers. Follow up of course participants were done in their work settings to encourage utilisation of the TB/HIV management and counseling skills and to assess the impact of the training on practice.

## RESULTS

Many of the workers were engaged in integrating these skills into innovative primary health care programmes at their places of work. Preliminary reports from the first phase of this study indicated that the subjects had high prevalence of the problem of lack of access to care for TB/HIV. Their level of knowledge about TB/HIV was very low and they did not perceive it as a health hazard.

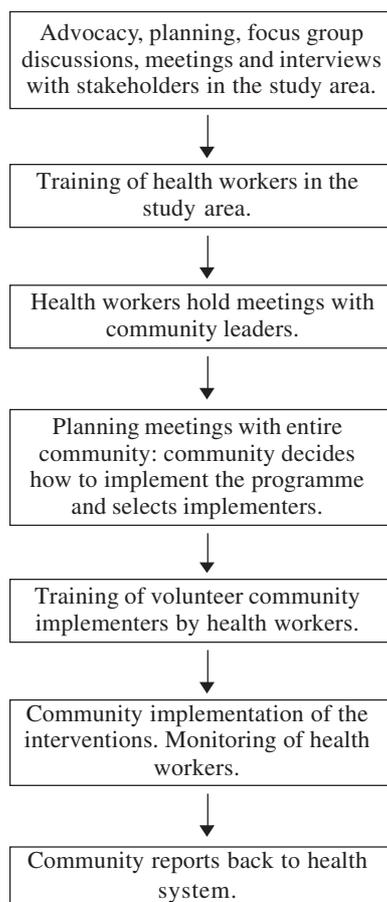
Findings from their KABP and their preferred sources of TB/HIV information indicated that the components of the second phase (the intervention programme) were appropriate and relevant and would therefore be effective.

A large number of pre-tested health education materials on TB/HIV prevention were produced for finalisation as camera-ready artwork for printing. The method of working at motor parks and stop points was very effective as the health education materials reached the hard-to-reach grassroots and increased the awareness about TB/HIV among the target population.

Community based organisations including traditional age groups,

women's group (wives and daughters), local theatre/drama groups, religious groups (eg. Catholic, Pentecostal women groups and others) provided TB/HIV information and education to the grassroots rural areas. These groups maintained interactive and participatory approach during programming and conducted intensive advocacy for programmes at the community level. Community based and grassroots organisations utilised several strategies, which were considered effective by the communities.

Several approaches and linkages were made with the communities, sustainability was more enhanced, community partnership and ownership was ensured, several networks were formed amongst the groups as a result of linkages between community based organisations (CBOs) which resulted in the production of a model community-directed strategy of TB/HIV intervention process with seven steps: Figure 1



**Fig. 1: The seven steps involved in the Model Community-directed TB/HIV Intervention Process.**

This community-directed intervention process obtained demonstrates how community delivery of under-utilized health interventions in an integrated manner could dramatically improve access to care and treatment particularly in a remote African community like rural Eastern Nigeria.

## DISCUSSION

This study was an innovative programme in which community directed intervention was modeled and tested successfully. If the programme is extended and implemented, it will eliminate access to care as a problem in TB/HIV control. This same approach can also be used to deliver other critical primary health care interventions. This is an evidence that rural Africans can dramatically reduce the burden of disease from TB/HIV through community-directed programmes of treatment. Effectively treated and cured patients living within their home communities are often the best advocates for TB/HIV services and may become the drivers of social mobilisation to support TB/HIV control.

### Drama, Music and Dance

Responses from the youths revealed a wide spread acceptance of the TB/HIV programmes when they are linked to their interests like dance shows, drama and related programmes. Music and dance should be used and other medium the youth appreciate to motivate their participation in TB/HIV control programmes from conception to execution.

### Media Intervention

Increased participation of the mass media in NGO programmes and activities made different target populations to be well informed and updated on TB/HIV related programmes. There was increased institutional partnership and collaboration among NGOs. The media has a big role to play in TB/HIV case finding and control by way of creating the much needed awareness.

Media intervention strategies for prevention and control of TB/HIV must be sustained, focused and intensive, if they are to achieve positive attitudinal

change. The radio must be at the core of any long-term media intervention. Such intervention strategy however must address the structural, organisational and skills capacity of radio stations and should aim at building long term capacities of local partners to ensure sustainability. Modification of approaches which involve integrating other relevant issues into TB/HIV programmes has proved very successful keeping both target audience and health educators on their toes.

Poverty can be reduced through the provision of skills for the youths whirl religious communities should be engaged in breaking the silence on TB/HIV. E-mail networking has proved to be a cheap, effective and reliable strategy for building support and solidarity among TB/HIV health workers and patients and for keeping fieldworkers in remote areas in touch with latest developments in the country context and across national boundaries. E-mail networking is highly recommended as a means of organized communication and interaction between TB/HIV health workers and patients on a local, national and cross-national scales.

### Commercial Vehicles

Commercial motorised vehicles on land are the most common means of mass transportation in Africa and other resource poor settings. They provide an important social setting and unique special medium where members of the public, in small groups as passengers can be reached with information on TB/HIV infection. This method involves the conduct of comprehensive analysis, operations planning, training of volunteers, implementation, monitoring and evaluation.

The acronym “ War on wheels

against TB/HIV” operation WOWAT is envisioned as a strategically planned project which aims at seizing the unique opportunities offered by land mass transportation to effectively sensitise and mobilize the public in an all-out-fight against the spread of TB/HIV infection in the community carried out by a local “corps” of well trained and well motivated volunteers delivering well designed, relevant and appropriate TB/HIV control and prevention messages and materials informally, easily, quickly and effectively inside commercial vehicles.

### Health Education Information

Factual health education information is a good tool for TB/HIV control in prisons and other hard-to-reach populations. The increasing spread of TB/HIV calls for an increased effort in preventive programming. Ignorance has been posited to be one of the driving forces against case finding and is behind the epidemic along with low perception of risk especially among men and youth. Innovative strategies which are far reaching in the least possible time are important for use in TB/HIV prevention, case- finding, treatment and control .

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