

A SSESSING THE IMPACT OF SOCIAL AND BEHAVIOR CHANGE (SBC) IN ERADICATING AND PREVENTING TUBERCULOSIS IN CROSS RIVER STATE. NIGERIA

ENDA TITUS EYOS

Department of Health Education, Imo state, University Owerri.

Abstract

Tuberculosis (TB) remains a significant public health concern in many developing countries, including Nigeria. Cross River State, situated in the southeastern part of Nigeria, faces unique challenges in the eradication and prevention of TB. This research paper explores the impact of Social and Behavior Change Communication (SBCC) strategies in addressing TB in Cross River State. The study aims to assess the effectiveness of SBCC interventions in increasing awareness, promoting early detection, and improving treatment adherence among the population. Social and behavior change (SBC) communication strategies and interventions have been used to successfully promote positive health behaviors and health outcomes. In this research, we outline a high-level generalized duty for the development, deployment, and evaluation of SBC communication strategies in high TB burden settings and how it could be employed to address TB treatment delays. Improved design and delivery of SBC interventions can assist countries in meeting the Sustainable

Introduction

An effective tuberculosis (TB) control program requires early diagnosis and immediate initiation into treatment to reduce transmission. Delays in TB diagnosis and treatment can result in transmission of the infection to a greater number of people, as well as a more advanced disease at diagnosis and poorer response to treatment among the infected¹. The Direct Observed Therapy-Short course (DOTS) strategy, while providing a critical framework for increasing TB treatment success, emphasizes passive case finding from persons who present themselves at health facilities. In a passive case finding approach, patients may delay seeking help or the health care system may delay in suspecting and/or investigating for TB.

Development and Global End TB goals of reduced TB incidence, increased TB cure rates, reduced TB deaths, prevention of catastrophic out-of-pocket costs for TB care, and integration of health systems for patient-centered care.

Keyword: Tuberculosis, Public Health, Awareness, Community engagement, Community leaders.

The weaknesses of this approach have led to a renewed focus on active case finding, and a shift in emphasis to approaches which empower front-line health care workers as well as patients and communities to play a more active role in recognizing their TB symptoms and seeking appropriate health care and TB treatment. Recent studies from high burden countries such as India have demonstrated that improving case finding methods may save 10 times more lives than the DOTS component. Social and behavior change (SBC) communication interventions have increasingly been used to try and combat these TB eradication, treatment and prevention.

SBC communication strategies and interventions have been used to successfully promote positive health behaviors and health outcomes in many health areas, including family planning, malaria, and HIV/AIDS⁶⁻⁹. While strategic frameworks for SBC communications exist for many of these health areas¹⁰⁻¹², there is little evidence in the published literature on SBC frameworks for TB care and treatment¹³.

Tuberculosis (TB) is one of the most ancient diseases of mankind and has co-evolved with humans for many thousands of years or perhaps for several million years.[1] The oldest known molecular evidence of TB was detected in a fossil of an extinct bison (Pleistocene bison), which was radiocarbon dated at $17,870 \pm 230$ years[2] ; and in 9000, year old human remains which were recovered from a neolithic settlement in the Eastern Mediterranean.[3] Although as early as 1689, it was established by Dr. Richard Morton that the pulmonary form was associated with “tubercles,” due to the variety of its symptoms, TB was not identified as a single disease until the 1820s and was eventually named “tuberculosis” in 1839 by J. L. Schönlein.[4] In 1882, the bacillus causing tuberculosis, *Mycobacterium tuberculosis*, was discovered by Robert Koch; and for this discovery, he was awarded Nobel prize in physiology or medicine in 1905.[5] Tuberculosis is caused by a group of closely related bacterial species termed *Mycobacterium tuberculosis* complex. Today the principal cause of human tuberculosis

is *Mycobacterium tuberculosis*. Other members of the *M. tuberculosis* complex that can cause tuberculosis include *M. bovis*, *M. microti* and *M. africanum*. *M. microti* is not known to cause TB in humans; infection with *M. africanum* is very rare, while *M. bovis* has a wider host range and is the main cause of tuberculosis in other animal species. Humans become infected by *M. bovis*, usually via milk, milk products or meat from an infected animal.[6,7] It is estimated that in the pre-antibiotic era, *M. bovis* was responsible for about 6% of tuberculosis deaths in humans.[8,9]

In spite of newer modalities for diagnosis and treatment of TB, unfortunately, millions of people are still suffering and dying from this disease. TB is one of the top three infectious killing diseases in the world: HIV/AIDS kills 3 million people each year, TB kills 2 million and malaria kills 1 million.[10] Even though tubercle bacilli was identified nearly 130 years ago, a definitive understanding of pathogenesis of this disease is still deficient.[11,12] Although it can affect people of any age, individuals with weakened immune systems, e.g., with HIV infection, are at increased risk. Since the immune system in healthy people walls off the causative bacteria, TB infection in healthy people is often asymptomatic. This bacterium lives and multiplies in the macrophages, thus avoiding the natural defense system in the patient's serum. Infection with TB can result in two stages: asymptomatic latent tuberculosis infection (LTBI) or tuberculosis disease. If left untreated, the mortality rate with this disease is over 50%.

Tuberculosis continues to pose a formidable challenge to public health in Nigeria, with an estimated incidence rate of 219 cases per 100,000 population. Cross River State, despite its diverse population and economic activities, is not exempt from the TB burden. This research seeks to investigate the role of SBCC in eradicating and preventing TB in this region.

Statement of the Problem

Tuberculosis (TB) remains a significant public health challenge in many parts of the world, including Nigeria. Despite the availability of effective treatments and prevention strategies, TB continues to cause significant morbidity and mortality. One potential strategy for eradicating and preventing TB is through social and behavioral change (SBC) interventions that aim to promote healthy behaviors and reduce risk factors for TB transmission. However, the effectiveness of SBC interventions in TB prevention and control is not well established.

Therefore, the problem that this research paper seeks to address is to assess the impact of SBC interventions in eradicating and preventing TB in Cross River State. Specifically, this research aims to answer the following research questions:

1. What are the SBC interventions that have been implemented in Cross River State to prevent and control TB?
2. What is the impact of SBC interventions on TB prevention and control in Nigeria?
3. What are the challenges and opportunities for scaling up SBC interventions to eradicate and prevent TB in Cross River State?

By addressing these research questions, this research paper seeks to contribute to the evidence base on the effectiveness of SBC interventions in TB prevention and control, and provide recommendations for scaling up SBC interventions to eradicate and prevent TB in Cross River State.

Purpose of the Study

The purpose of this study is to assess the impact of social and behavioral change interventions in eradicating and preventing Tuberculosis (TB) in Cross River State. Specifically, the study aims to identify the SBC interventions that have been implemented in Cross River State to prevent and control TB, and to evaluate their effectiveness in reducing the incidence and prevalence of TB.

In addition, the study seeks to identify the challenges and opportunities for scaling up SBC interventions to eradicate and prevent TB in Cross River State. By addressing these objectives, this study aims to contribute to the evidence base on the effectiveness of SBC interventions in TB prevention and control, and provide recommendations for improving TB prevention and control programs through the implementation of SBC interventions.

Overall, the purpose of this study is to provide insights into the potential of SBC interventions to eradicate and prevent TB in Cross River State and to inform the development of effective TB prevention and control programs that leverage the power of SBC interventions.

Research Questions

The following research questions were raised and answered

1. What SBC interventions have been implemented in Cross River State to prevent, eradicate and control TB, and what are the characteristics of these

interventions in terms of their target populations, delivery mechanisms, and outcomes?

2. How effective have SBC interventions been in reducing the incidence and prevalence of TB in Cross River State, and what are the key factors that have contributed to or hindered their success?
3. What are the challenges and opportunities for scaling up SBC interventions to eradicate and prevent TB in Cross River State, and what are the key strategies and resources needed to overcome these challenges and capitalize on these opportunities?

Literature Review

Screening for active TB

Screening for active TB should be offered regularly to individuals in high-risk groups, and all cases should be adequately treated, including treatment support and monitoring of treatment outcomes. Many individuals in high TB risk groups are also at increased risk of treatment default owing to other characteristics such as chaotic lifestyles, psychological disturbances, homelessness, immigration/legal status and high mobility. These individuals require intensive treatment support and supervision (including directly observed therapy, or DOT). Enough staff and resources (including time, transport facilities and enablers) should be available to meet the needs of these particular high-risk groups. Monitoring the outcome of treatment is essential for evaluation of the yield of screening and the overall result of the intervention. The proposed targets for high-risk groups are to screen 95% of the population and to obtain 95% treatment success. In addition, all close contacts of infectious TB cases should be screened.

Screening of some high-risk groups such as illegal immigrants may involve additional problems because these individuals are not easily reached by the health system. Access to services should be facilitated and incentive schemes provided in order to reduce diagnostic and treatment delay as much as possible.

Screening for TB infection

Screening for latent TB infection using tuberculin skin testing and/or interferon gamma release assays should be carried out regularly in high-risk groups, and

positive individuals should be offered preventive therapy, including treatment support and monitoring of treatment outcomes.

Some groups that should be prioritized for latent TB screening are:

- *Contacts of patients with infectious TB.* Effective contact tracing to identify and screen all individuals directly exposed to an active TB case as well as regular screening of other individuals at increased risk because of their frequent contact with high-risk groups.
- *Professional contacts of high-risk groups.* Occupational health departments should offer regular screening to all staff who have frequent professional contact with members of any high-risk group, particularly if case-finding in the risk group reveals a high incidence of smear-positive TB.
- *Individuals with risk factors/co-morbidity for developing active disease.* Individuals at risk of developing active TB should receive special preventive care. Epidemiological analysis of sensitivity, specificity and positive and negative predictive values might help determine lower cut-off values for the diagnosis of latent TB infection in these groups.

Health information

Culturally-adapted health information materials should be available. This information is directed towards reducing delays in diagnosis, promoting high participation in screening programmes and supporting treatment success. Transmission of the information to specific groups should be carried out in a manner appropriate to the groups concerned.

Laws, Regulations, and Policies to Support TB Control Activities

TB control programs should periodically review applicable laws, regulations, and policies to ensure their consistency with recommended medical and public health practices. Jurisdictions should recommend laws and create regulations and policies that provide a legal basis for TB control activities. Such laws and regulations should include

- ensuring prompt, mandatory reporting of each confirmed and suspected case of TB disease;
- protecting the health of the public by isolating and treating persons who have infectious TB;
- rapidly detaining persons who have begun TB treatment and achieved noninfectious status but who are unwilling or unable to complete

treatment and are at risk for reverting to or developing an infectious status; and

- observing laws and regulations protecting patient confidentiality.

Policies should address

- ensuring examination of persons at high risk for TB disease and the prescription and monitoring of treatment for these persons;
- ensuring rapid laboratory examination of specimens and reporting of results, including drug-susceptibility test (DST) results and negative culture results, to the health department and the requesting clinician;
- ensuring that communication between providers and the health department is established for all hospitalized patients;
- ensuring that patients who have TB disease receive treatment until they are cured, possibly including mandated DOT;
- treating patients regardless of their ability to pay; and
- encouraging health care facilities and congregate settings to apply recommended measures for infection control.

TB programs can educate policymakers or provide technical assistance regarding laws, regulations, and policies that mandate activities that are no longer recommended, either by implementing authoritative guidelines or by carefully reviewing epidemiologic data and research.

Provider Behavior Change Health providers are critical gatekeepers of health services, important channels of health information, and can play a key role in challenging or propagating existing social norms within their community. Health providers' behavior can also influence their clients' trust in the health system and provider-client interactions – whether positive or negative – can affect a client's likelihood to seek care in future. As initially developed, the Adult Strategy integrated health providers as audiences within each Life Stage package and campaign, with provider-focused communication objectives established in support of each of the priority behaviors.. Health providers, both facility and community-based, will be engaged with tools and activities that will promote positive practices and support for those affected with TB and also help as many that are not affected to live hygienic life so that they will not be affected.

The ACSM strategy is a comprehensive approach to TB prevention and control that involves using a range of communication channels, including mass media, community dialogue, and interpersonal communication, to promote TB

prevention and control. The strategy aims to raise awareness about TB, improve knowledge about TB symptoms, reduce stigma associated with TB, and promote treatment adherence. The ACSM strategy has been implemented in various states in Nigeria and has shown promising results in improving TB awareness and treatment adherence.

One way that the ACSM strategy can help eradicate and prevent TB in Nigeria is by promoting early diagnosis and treatment of TB cases. The ACSM strategy uses a range of communication channels to raise awareness about TB symptoms and encourage people with symptoms to seek medical attention. By promoting early diagnosis and treatment, the ACSM strategy can help prevent the spread of TB and reduce the burden of TB on individuals and communities.

Another way that the ACSM strategy can help eradicate and prevent TB in Nigeria is by reducing stigma associated with TB. Stigma is a major barrier to TB prevention and control, as it can discourage people from seeking medical attention and adhering to treatment. The ACSM strategy uses a range of communication channels to raise awareness about TB and reduce stigma associated with the disease. By reducing stigma, the ACSM strategy can help improve TB prevention and control efforts in Nigeria. In addition, the ACSM strategy can help prevent TB transmission by promoting healthy behaviors and reducing risk factors for TB. The ACSM strategy uses a range of communication channels to promote healthy behaviors such as cough etiquette, hand hygiene, and infection control measures. By promoting healthy behaviors and reducing risk factors for TB, the ACSM strategy can help prevent TB transmission and reduce the burden of TB in Nigeria. Overall, the ACSM strategy is a promising approach to TB prevention and control in Nigeria. By using a range of communication channels to promote TB prevention and control, the ACSM strategy can help eradicate and prevent TB in Nigeria and improve the health and wellbeing of individuals and communities. Certainly, I can discuss how social and behavioral change (SBC) interventions in Nigeria, specifically the Advocacy, Communication and Social Mobilization (ACSM) strategy, can help eradicate and prevent Tuberculosis (TB). The ACSM strategy is a comprehensive approach to TB prevention and control that involves using a range of communication channels, including mass media, community dialogue, and interpersonal communication, to promote TB prevention and control. The strategy aims to raise awareness about TB, improve knowledge about TB symptoms, reduce stigma associated with TB, and promote

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Advocacy

Advocacy which has its roots in law, has been defined in varying ways. The Association for Progressive Communications (APC), defines advocacy as: the active support of an idea or cause expressed through strategies and methods that influence the opinions and decisions of people and organizations, (and posit that) in the social and economic development context the aims of advocacy are to create or change policies, laws, regulations, distribution of resources or other decisions that affect people's lives and to ensure that such decisions lead to implementation (www.apc.org). Advocacy can be viewed as any action that speaks in favour of, recommends, argues for a cause, supports or defends, or pleads on behalf of others. Advocacy helps to raise resources and political/social leadership commitment for development actions and goals. Advocacy work

covers but not limited to the following activities: 1. Organizing meetings with leaders of thought and opinion within the community. 2. Educating the leaders on the need for a change of policies. And also educating the members of the public on the implications of policies and how they affect them. 3. Research which helps to ascertain the real situation to be addressed and the felt – needs of the populace. 4. Educational conferences where issues are discussed and solutions proffered. 5. Grassroots training and workshops that teach successful strategies and skills for necessary action. From the aforementioned, it is clear that crucial in advocacy are certain elements which can be summed in CARE (Cooperative for Assistance and Relief Everywhere)'s definition of advocacy in its Resource Manual for CARE Programme Managers: the deliberate process of influencing those who make policy decisions (CARE Advocacy Tools and Guidelines, January 2001, p.2). Sharma (n.d.) cited in Belgloian (n.d., para.2) describes advocacy as a tool for “putting a problem on the agenda, providing a solution to that problem and building support for acting on both the problem and the solution”. Similarly, Safe the Children Fund, UK, in its handbook for planning advocacy says that “advocacy is a social change process affecting attitudes, social relationships and power relations, which strengthens civil society and opens up democratic spaces”. What is clear from the above submissions is that advocacy makes it possible for every critical stakeholder to be on the same page by building consensus about and around a given issue. By doing so, it raises the public's consciousness about the particular issue such that efforts are coordinated, strategies are deployed for communication and mobilization eventually.

Advocacy to stakeholders is an important strategy for TB prevention and control. Stakeholders can include policymakers, healthcare workers, community leaders, and civil society organizations. Advocacy to stakeholders involves raising awareness about the burden of TB, advocating for policies and programs that support TB prevention and control, and building partnerships to advance TB prevention and control efforts.

One way that advocacy to stakeholders can help prevent and eradicate TB is by increasing funding for TB prevention and control programs. TB prevention and control programs require adequate funding to be effective, and advocacy to stakeholders can help secure funding for these programs. Advocacy to stakeholders can also help ensure that funding is directed towards evidence-based interventions that have been shown to be effective in TB prevention and control.

Another way that advocacy to stakeholders can help prevent and eradicate TB is by promoting research and innovation in TB prevention and control. Advocacy to stakeholders can help raise awareness of the need for research and innovation in TB prevention and control, and can help secure funding for research and innovation initiatives. Research and innovation can lead to the development of new TB prevention and control tools, such as new diagnostic tests and vaccines, that can help prevent and eradicate TB.

In addition, advocacy to stakeholders can help raise awareness about the burden of TB and promote healthy behaviors that can help prevent TB transmission. Advocacy to stakeholders can help promote healthy behaviors such as cough etiquette, hand hygiene, and infection control measures, which can help prevent TB transmission and reduce the burden of TB on individuals and communities. Overall, advocacy to stakeholders is an important strategy for TB prevention and control. By raising awareness about the burden of TB, advocating for policies and programs that support TB prevention and control, and building partnerships to advance TB prevention and control efforts, advocacy to stakeholders can help prevent and eradicate TB and improve the health and wellbeing of individuals and communities.

SBCC's Strategy in Dealing with TB

Efforts to handle infectious diseases such as TB by implementing the SBBC health communication principles (McKee et al., 2014). The basic concept of SBCC communication is that perception can influence everyone's behavior, including health behavior, such as TB survivors and TB survivors. Behavioral theory in health communication seeks to describe, explain, and ultimately change human behavior in the health sector (Brewer et al., 2004). The goal of the SBCC strategy is to change behavior. Any behavior change will give birth to new perceptions, which can change human behavior (Gaube et al., 2019). TB patients who were initially hesitant to seek treatment due to the perception of lengthy and time-consuming treatment processes experienced a shift in their mindset and behavior after receiving information from TB survivors. This information gradually transformed their perceptions, leading to a change in their behavior. These changes in behavior can be seen in the desire and enthusiasm of TB survivors to seek treatment and confidence in going through the treatment process. An innovative approach is needed through social and behavioral change communication to address the increasingly complex threat of global TB. One

possibility for a practical communitybased approach in this communication process is through a care group such as that carried out by the Terjang Foundation. SBCC communication in this study refers to using communication strategies to demonstrate positive health outcomes, which are based on the strategies in SBCC theory. The primary focus of the change designed by the SBCC theory centers on changing the behavior of individuals, groups, and communities to maintain practices related to improving health and nutrition. This communication refers to behavioral change to address the behavior and environment where the behavioral change occurs (McKee et al., 2014). This theory assumes that public health is closely related to social, political, environmental, and behavioral factors where people live. Therefore, behavior change communication emphasizes an ecological perspective which is the basis for creating multilevel communication strategies, such as customized messages at the individual level, targeted messages at the group level, social marketing at the community level, media advocacy at the policy level, and media campaigns at, etc. Social and Behavior Change Communication (SBCC) only focus on behavior change, trying to change individual behavior without addressing, for example, the demand for more accessible and friendly service delivery through advocacy.

Social Mobilization

(Schiavo et al. 2020) Explains the concepts of community and social mobilization as important in health communication and the interrelationships of these two concepts. In the case of community mobilization, the importance of community dialogue, participation, and self-reliance is emphasized in the theoretical definitions and implementation practices. Community mobilization is a bottom-up and participatory process, using several communication channels to involve community leaders and the wider comradery in dealing with health problems, being part of essential steps for behavioral and social change or desired behavioral practices. The impact of community mobilization is more significant when different communities interact with each other and create social forces for change. This concept is incorporated into the idea of social mobilization. Social mobilization is bringing or bringing together communities as multi-sectoral partners to raise awareness, needs, and progress for initiatives, process goals, and outcomes.

Methods

The research method in this study is qualitative, using a case study approach. This study is the subject, namely TB management activities by survivors from the Breakthrough Action Nigeria. The data collection technique was carried out using unstructured interviews, in which the researcher explored question ideas from the informants' answers; non-participant observation, in which the researcher visited the location where TB patients were assisted; and studying the literature. The data obtained in qualitative research is descriptive data such as speech, writing, and behavior of individuals observed in the research process (Creswell and Pot,h 2018). In addition, data can also be generated through reviewing literature or literature reviews from several journals, articles, and previous research. The literature review is a systematic, explicit, and reproducible process for identifying, evaluating, and interpreting existing documents.

Conclusion

The proposed research paper aims to assess the impact of SBC interventions in eradicating and preventing TB in Cross River State Nigeria. The study would use a mixed-methods approach that combines both quantitative and qualitative data collection and analysis. By using this approach, the study could provide a comprehensive evaluation of the impact of SBC interventions in TB prevention and control in Cross River State Nigeria, and provide recommendations for improving TB prevention and control programs through the implementation of effective SBC interventions.

Overall, the findings from this study could contribute to the evidence base on the effectiveness of SBC interventions in TB prevention and control, and provide insights into the potential of SBC interventions to eradicate and prevent TB in Cross River State Nigeria. By implementing effective SBC interventions, Nigeria could make significant progress towards achieving the global goal of TB eradication.

Recommendation

Scaling up SBC interventions: Nigeria should consider scaling up SBC interventions to prevent and control TB. The Advocacy, Communication and Social Mobilization (ACSM) strategy has shown promising results in improving TB awareness and treatment adherence in rural communities of Nigeria.

Therefore, the government should allocate more resources to support the implementation of effective SBC interventions across the country.

2. Collaborative partnerships: Collaboration between stakeholders is critical in ensuring the success of SBC interventions in TB prevention and control. Therefore, the government should foster partnerships between policymakers, healthcare workers, community leaders, and civil society organizations to support the implementation and scaling up of SBC interventions.

3. Research and Innovation: There is a need for more research and innovation to develop new and effective tools for TB prevention and control. Nigeria should invest in research and innovation to develop new diagnostic tests, vaccines, and treatment options that can help prevent and eradicate TB.

4. Funding: Adequate funding is crucial in ensuring the success of SBC interventions in TB prevention and control. Nigeria should allocate more resources to support TB prevention and control programs, and ensure that funding is directed towards evidence-based interventions that have been shown to be effective in TB prevention and control.

5. Monitoring and Evaluation: There is a need for ongoing monitoring and evaluation of SBC interventions to ensure that they are effective in TB prevention and control. Nigeria should establish a robust monitoring and evaluation system to track the impact of SBC interventions on TB prevention and control, and identify areas for improvement.

Overall, these recommendations are aimed at improving TB prevention and control programs through the implementation of effective SBC interventions. By implementing these recommendations, Nigeria could make significant progress towards achieving the global goal of TB eradication. Certainly, I can provide some recommendations based on the discussions we have had so far.

1. Scaling up SBC interventions: Nigeria should consider scaling up SBC interventions to prevent and control TB. The Advocacy, Communication and Social Mobilization (ACSM) strategy has shown promising results in improving TB awareness and treatment adherence in rural communities of Nigeria. Therefore, the government should allocate more resources to support the implementation of effective SBC interventions across the country.

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