

# TB and Conflict: An Emerging Window for Global TB Control

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## Abstract

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| <b>Introduction</b> | Statistical modeling estimated that 8 million new cases of Tuberculosis infection and 1.7 million deaths occur globally. Some 50 percent untreated TB sufferers' die of TB illness. The emerging bodies of knowledge suggest that conflict is one of the main hurdles for global TB control.  |
| <b>Objectives</b>   | This study intends to explore the association between conflict and high burden of TB disease in various parts of the world.   |
| <b>Methods</b>      | Literature review and issue based discussions have been managed with professors and researchers from both epidemiology and public health sectors.   |
| <b>Results</b>      | A study explored that one combatant killed in armed conflict can cause 14-15 indirect deaths. Like wise another publication estimated that armed conflict will be the top 10 causes of disability adjusted life years lost by the year 2020. More importantly study carried out in West Africa concluded that TB mortality rate in conflict areas is 3 fold higher than non-conflict areas. |
| <b>Conclusion</b>   | The emerging bodies of knowledge concluded that there is strong association between conflict and high burden of TB disease. It can be suggested that there is a need for broader scientific research that may be able to understand and solve the problem.  |
| <b>Keywords</b>     | Conflict, Tuberculosis (TB), Directly Observed Treatment Short Course (DOTS), Multi-Drug Resistant (MDR) TB and "U-shaped curve of concern".  |

## Introduction

The impact of Tuberculosis on humanity has been massive, even in the middle of 20<sup>th</sup> century, having Tuberculosis was equivalent of a death sentence<sup>1</sup>. Several policies, plans and actions have been introduced to combat the burden of Tuberculosis, still every year 1.7 million people are being dying by Tuberculosis<sup>2</sup>. It has been well understood that Tuberculosis is not only a medical problem it's a prominent social problem. Studies have been able to establish relationship between infectious disease and armed conflict. The conflict is simply defined as a situation that can burst the normal banks of the daily health service delivery and service use mechanism in given geography<sup>3</sup>. A study carried out in Guinea-Bissau concluded that TB mortality in conflict area is 3 fold higher than non conflict areas.<sup>4</sup> Due to the armed conflict more than 191 million people were lost their life in 20<sup>th</sup> century.<sup>5</sup>

Though the conflict is not a new phenomenon, it becomes a more complex reality, evolving with growing needs and interest of the world population. In conflict the quantity and quality of health services is greatly reduced. The vector control program, outreach services, training, referral, drug supply and monitoring are seriously impeded<sup>3</sup>

## Methods

The study has been done through the literature review. The journal articles, research reports, books, newspaper articles, official reports and annual reports of different agencies were reviewed during the study. A part from that, wider levels of discussions have been made with professors and researchers from both epidemiology and public health sectors.

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## Findings

As direct results of conflict about 35 people are being killed every hour<sup>5</sup>. It has further been documented that for each combatant killed in armed conflict there are 14-15 indirect deaths<sup>6</sup>. Indirect death refers to the poor nutrition, poor housing, poor health services and burden of communicable diseases. More importantly, various reports have spelled out that globally there is 3% increase in new TB cases each year. WHO estimates that TB incidence will increase by 41% between 1998 to 2020, when it will be equal to 10.6 million cases per year<sup>7</sup>. Here the important point is conflict creates the lucrative ground where TB can flourish significantly.

Studies pointed out that in Ethiopia<sup>8</sup> and Mozambique<sup>9</sup> Malaria epidemics were related with deterioration of disease control activities. More importantly in Nicaragua increased risk of malaria was associated with conflict affected population and troops movements. The situation disrupted to carry out timely disease control activities and shortage of health personnel<sup>10</sup>. UNICEF documented that conflict destroys the communication networks thus disrupting the TB control program of the community level. Lack of paper, electricity, and batteries for radios and postal services may hamper the educated and information to conflict affected and displaced populations<sup>11</sup>. More importantly, WHO noted that the fighting in Kisangani had disrupted the planned immunization days and over 180,000 doses of polio vaccine were lost<sup>12</sup>. The figure could be too small to generalize in global spectrum, but the importance of this event is that, conflict can contribute to destroying people's health. Similar scenarios may develop for TB drugs or BCG vaccination. It has been reported that over 95% of global new TB cases and 98% of deaths occur in developing world. The risk of Tuberculosis has been reported to be 2.6 times higher among poor (< 1 US\$ per day) than non-poor. The figure has different meaning i.e. poverty, poor drug supply, less political commitment, displacement and conflict. Whatever the meaning is, the consequence could go beyond the geography of developing world. The American Review of Respiratory Disease raised the "U-shaped curve of concern"<sup>13</sup>. The reality is the outbreak was not just poverty or homelessness of New York City, but it was the great failure of looking at the problem with scientific eyes. In December 2002, British Broad Casting Corporation news mentioned that in some parts of UK TB rates are at Third Worlds Level. The borough of Brent has 116.5 cases per 100,000, which is higher than many developing countries. The report pointed out that 60% of the reported cases

in UK among foreign-born, most of the people were displaced from their respective countries<sup>14</sup>.

Anthony (2001) reported that more than 65% of epidemics are taking place in unstable countries. As far as TB is concerned, the TB mortality rate in conflict area has been reported to be 3 fold higher than non conflict areas in West African Countries<sup>4</sup>. A study carried out in Churachandpur district of India reported that it is difficult to manage the documentation during the conflict situation<sup>15</sup>. The health care expenditures due to the violence account for up to 5% of GDP. In addition to that more than 2% per capita output falls down during the conflict.

## Discussion

In order to deal with this new public health concern a broader framework with the specific countrywide activities will be needed. The recipient of the 1947 Nobel Prize in Medicine, Dr. Gerhard Domagk mentioned that, "man must want more than he is able to achieve if we do not reach for the impossible, we shall never reach far enough to discover the possible, and our wish must be boundless". In line with the Dr. Domagk's statement WHO and STOP TB set various strategies for a TB-Free world. The reasons why we are heading on the TB-free world is, TB is the greatest single infectious killer of all time over the century, it has taken more than one billion human lives from the world<sup>16</sup>.

Taking the inference from Nepal we may speculate that the five pillars of directly observed treatment short course (DOTS) are in the threats. The number one pillar is political commitment that can be weakened without presence of local government. high budget 59.8% in regular sector, absence of NGOs and private sector in community level. The second is diagnosis of microscopy, which is related to the low willingness of lab technician to work in conflict areas and insufficient number of lab technicians. The third pillar is uninterrupted drug supply can be threatened by frequent closures, destruction's of Airport in hilly areas and insecurity of porter to travel from headquarters to treatment centers. Fourth is daily observe, that can be more sensitive because casualties, operations, ambushing and mass campaigns can forced the patient not to go to the health facilities. The last is accountability that is threatened by the absence of functional civil society in conflict areas. Conflict has several impacts on different strata of the society. It contributes to reduce the 2% per capita output and demands the more expenditure for weapons. It does not stop with this situation it goes beyond and disrupt the health service delivery system.

## Conclusion

The studies in different parts of the world have pointed out that there is an association between conflict and TB burden. The conflict and TB has also been appeared as an emerging window for global TB control. Thus, a broader scientific research may be needed to establish the association between conflict and TB in the countries where armed conflict is taking place. The information gained from such research will be instrumental to develop a pragmatic plan for TB control in conflict zones. The level and extent of partnership may need to be developed beyond the existing level and context. The acceptance by armed forces of the importance of TB service delivery could be the crucial point to control the TB in conflict areas. Moreover, improving the case detection and treatment rate, stake-holding, innovations, reducing number default cases, curing the MDR TB, and treatment of latent TB may be the fundamental challenges for TB control in conflict areas.

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