

Wars versus SARS: Are epidemiological studies biased?

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Wars and armed conflicts, with huge ill-health consequences, have been with human beings from the beginning of history. It is estimated that in the twentieth century alone, 191 million people died as a consequence of war-related injuries; unfortunately more than half of these were civilians [1]. Furthermore, and just in the year 2000, World Health Organization (WHO) estimates that up to 310,000 people died due to war-related injuries [2].

Severe Acute Respiratory Syndrome (SARS) as an emerging coronavirus infectious disease, was internationally recognized in March 2003. Soon it triggered a rather huge response from scientific communities in order to better understand and therefore to better control it. As a result, WHO on July 2003 declared that the global threat of SARS was contained and by this time a total of 8,096 probable cases with 774 deaths were estimated to have occurred [3].

Although these two phenomena are incomparable in terms of ill-health related consequences and also in terms of their living history with humans the purpose of the current study is to determine how much epidemiological studies focused on and responded to these two phenomena.

The well-known PubMed search engine (<http://www.ncbi.nlm.nih.gov>) was searched in April 2014 using the following strategies: Firstly, by using two keywords i.e. “epidemiology” and “SARS virus” as Mesh terms and then by using two other keywords i.e. “epidemiology” and “war” as Mesh terms. In the second round of the search the words “epidemiology” and “SARS” were searched. Since,

usually “armed conflict” can apply interchangeably with war, in this round of search the strategy of search was carried out once more using “epidemiology” and “war” or “armed conflict”.

The first search strategy retrieved 16 articles for “epidemiology” and “SARS virus” and 90 articles for “epidemiology” and “war”. The second search strategy retrieved 1,917 articles for “epidemiology” and “SARS” and 9,853 articles for “epidemiology” and “war” or “armed conflict”.

To highlight how epidemiological studies have responded to these two phenomena the number of total retrieved articles divided by the number of deaths i.e. 1917/774 for SARS (nearly 2.5 articles per death) and 191,000,000 for wars (nearly 0.00005 articles per death). It should be noted that for death related to wars only the estimation number for the twentieth century were considered which is clearly much less than the total numbers.

The results of the present study have highlighted that overall there are shortages of epidemiological studies of wars and armed conflicts compared with SARS epidemiological studies. The disproportionate studies of SARS with other important infectious diseases were highlighted elsewhere [4]. Therefore, here we focus on the shortages of war epidemiological studies. There could be several reasons for these shortages as follows:

Firstly, and the most important one is the fact that wars and armed conflicts are mostly conducted in developing countries. For example, based on WHO estimations in the year 2000 mortality caused by war-related injuries was the 11th leading cause of death in the African Region (AFR) whilst in the same year, it was the 62nd in the American Region (AMR) [2]. Secondly, evidence suggests that whilst deaths related to war injuries are increasing it varies from year to year. Therefore, it is vital to consider the burden of

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deaths related to war injuries over longer periods of time [5].

The third reason is somehow related to the first reason and that is the important fact that since developing countries have to be prepared for wars and armed conflicts they divert most of their annual budget to military purposes. For example, in several less developed countries \$10–\$20 per capita is spent on military expenditure while only \$1 per capita is spent on health [1]. Although less developed countries spent more money on military expenditure than on health the highest spending of money on such expenditure belongs to developed countries. For example, only in 2007 the costs of America's wars were running at \$10 billion monthly [6]. This leads our world to a situation in which, some developed countries invest most money in wars whilst developing countries suffer most from the consequences of wars [7].

Therefore, as the fourth reason developing countries have substantial problems during peace time and they cannot endure extra problems which are caused by war and armed conflict. However, since they do not have an established surveillance and monitoring systems for health related problems during peacetime [8] they are not able to highlight and demonstrate the sheer magnitude of wars and armed conflicts on health whenever they erupt.

The fifth and the final interrelated reason is that due to unsafe situations during wars and armed conflicts it would be impractical to gather trustworthy data from the field. Besides, there is evidence that involving parties in wars and armed conflicts always distort the real number of mortality, morbidity and disability of both soldiers and civilians for political purposes [2]. Therefore, epidemiologists should invent appropriate methods or tailor their existing methods of gathering data in order to better depict the sheer scale of wars and armed-conflicts on health. It should be mentioned that some of these changes in epidemiological methods were applied in Iraq for estimating mortality before and after the 2003 invasion [9].

Just very recently it has been emphasized that within the 10 years since the SARS outbreak we increased our knowledge regarding the epidemiology, biology and control of this disease [10]. The question is when we would be able to increase our knowledge regarding the etiology, epidemiology and control of wars and armed conflicts?

It is worth mentioning that although it would be possible by changing the search strategy, for example by searching other search engines such as Scopus one would retrieve

more articles. However, it would be rather impossible that retrieving more articles would change the current unbalanced situation.

Wars and armed conflicts are social sicknesses that have been with human beings from the beginning of history and have been responsible for substantial deaths, injuries, disabilities and material losses. SARS is a viral emerging disease that caused rather small ill-health consequences compared with wars and armed conflicts had the potential to change into a pandemic severe respiratory infection disease. However, epidemiological studies have disproportionately investigated these two incomparable phenomena. As a responsible knowledge, epidemiological studies should be more proportionately focused on perennial human problems.

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