Patterns of mortality rates in Darfur

Summary of published research

Several mortality estimates for the Darfur conflict have been reported since 2004, but few accounted for conflict dynamics such as changing displacement and causes of deaths. A recent study analyses changes over time for crude cause-specific mortality rates, and assesses the effect of displacement on mortality rates.

Retrospective mortality surveys were gathered from an online database (CRED). Quasi-Poisson models were used to assess mortality rates with regard to place and period in which the survey was done, the proportions of displaced people in the samples were the explanatory variable. Predicted mortality rates for five periods were computed and applied to population data taken from the United Nations (UN) series about Darfur to obtain the number of deaths. This series of reports also provided data on humanitarian issues, such as displacement of people and humanitarian aid staff and food supply.

Sixty-three of 107 mortality surveys met all criteria for analysis. The results show significant reductions in mortality rates from early 2004 to the end of 2008, although rates were higher during deployment of fewer humanitarian workers. In general, the reduction in rate was more important for violence-related than for diarrhoea-related mortality. Displacement correlated with increased rates of death associated with diarrhoea, but also with reduction in violent deaths. Estimated excess number of deaths was 298,271 (95% CI 178,258-461,520). More than 80% of excess deaths were not a result of the violence.

Although violence was the main cause of death during 2004, diseases have been the cause of most deaths since 2005, with displaced populations being the most susceptible. However, the effect of displacement is different if mortality rates are split into violence-related and non-violence related mortality. Mortality associated with violence is generally lower in samples with many displaced individuals, but that associated with non-violence is significantly higher. This suggests that internally displaced people are protected from attacks, but overcrowding and precarious situations in which they live increase the risk of death from communicable diseases. Any reduction in humanitarian assistance appeared to lead to worsening mortality rates, as was the case between mid 2006 and mid 2007. During this period, there was an 18% reduction in number of humanitarian aid workers while the number of affected people increased from 3.5 million to 4.2 million.

The authors acknowledge a number of study limitations associated with retrospective mortality surveys, i.e. access to affected populations, survival bias and risk of recall bias. In addition, the CRED database may not have been exhaustive and surveys in the database may not have included all affected populations evenly. In spite of these and other study limitations, the authors conclude that the Darfur conflict shows a typical pattern of mortality rates with time. This was characterised by a peak in the number of violent deaths followed by a protracted phase of increased disease-related mortality rate. This latter phase particularly affects displaced individuals living in conditions of poor sanitary infrastructure, making them susceptible to diseases associated with diarrhoea.


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