Snakebite envenoming: a hidden health crisis

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Snakebite envenoming is possibly the world's biggest hidden health crisis.[1] Snakes can lurk in Nepali paddy fields or in a corner of a farmer's hut, but crucially the problem is hidden because it mostly affects the world's poorest people with almost no advocacy on their behalf. It is a very good example of a neglected tropical disease. Although snakebite envenoming has been a well-known problem in low-income countries such as Nepal, it was only as recently as 2017 that WHO included it in the list of neglected tropical diseases.[2]

Snakebite envenoming has been reported to kill between 81 000–138 000 people every year, mostly in rural Africa, Asia, and South America. Two Articles by Gabriel Alcoba and colleagues[3] and Sara Babo Martins and colleagues[4] published in this issue of *The Lancet Global Health* report on snakebite envenoming in Nepal's Terai (plains) region, where it borders with India, and it's devastating impact, providing a wealth of much-needed information on this neglected area.

Alcoba and colleagues cover snakebite epidemiology across Nepal's Terai.[3] The very high incidence (251 per 100 000) of snakebite envenoming and case fatality ratio (7·8%) is worthy of note. Data like these will be helpful in informing prevention and control strategies for the local Nepali government in keeping with WHO's strategies and the demands of funding agencies like the Wellcome Trust (which has made a big commitment[1] to help to transform the treatment of snakebite envenoming), against the sparse background of literature on snakebite envenoming. Additionally, this epidemiological study (like the other study by Martins and colleagues[4]) used a transdisciplinary analysis of human and animal snakebite cases in a One Health perspective, an important dimension in this field.

The Article by Martins and colleagues[4] which focuses on socioeconomic impact, showed that snakebite causes a substantial impact in livelihood losses, including the resultant losses of domestic animals. Snakebite envenoming in general affects the most marginalised people in this world. But, tragically, Martins and colleagues' study[4] also reported that years of life lost due to snakebite envenoming were more common in the most vulnerable (ie, in women [76·7%] and children [60·3%] in that group).

Additionally, the psychological effects included in the disability-adjusted life year estimation (stress, nightmares, and phobias related to a snakebite envenoming) are important traumatic experiences often not quantified in snakebite envenoming studies. And finally, other disabling sequalae, which included amputations and other kinds of surgeries, are also highlighted.

Importantly, the stark findings from both these articles should not be surprising due to the abysmal poverty in these vulnerable communities with no easy access to health insurance. Although proper preventive measures and safe, effective, and available antivenom are of the utmost importance, there is little doubt that access to Universal Health Care and cash transfers can be transformative for these communities in dealing with the effect of snakebite envenoming.[5]

There are important limitations in the snakebite envenoming data presented here. The Nepali Terai area has a mobile population. Hence, for more accurate estimates of the burden of disease and its effect on the population, a cohort study with a more recent demographic census (the 2011 Nepali government census was used here) of the study area would clearly have given more accurate results rather than the results of this cross-sectional study. Besides demographic fluctuations since 2011, recall bias could have played an important role. But, logistically and financially, a longitudinal study would be much more challenging.

Data collection was carried out in a 6 month period between Nov 30, 2018 and May 7, 2019, that is before the pandemic hit. As a result of the pandemic, prevention and treatment measures of snakebite envenoming by local governments might have been sidelined especially as in April, 2020, the WHO issued an interim guidance to postpone neglected tropical disease programmes and activities.[6] It is now important for the Nepali government to take into account the findings from these two important studies so that the poor outcomes of snakebite envenoming do not continue to be relegated. In fact, there could be insights from COVID-19 that could be applicable for snakebite envenoming in the postpandemic world, such as the need and proper usage of ventilators in a rural setting.[6,7]

Finally, these two snakebite envenoming articles also speak to a model collaboration of the team members in the Nepali Terai region and the Swiss National Science Foundation, Geneva University, as a result of which snakebite envenoming and its effect in these communities has been successfully highlighted. These findings should clearly help to transform prevention and treatment of snakebite envenoming in the Terai region by the Nepali authorities.

We declare no competing interests.

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