Serpents and thermometers: Connecting the dots between climate change and the growing menace of snakebites

Dear Editor,

In your January 2024 issue, the original article "Clinico-epidemiological profile and outcome of snakebite patients presented to a teaching institute – A descriptive retrospective review" (13(1):p 151–156, January 2024) indeed provides a good insight regarding various characteristics of snakebite like time of bite, common species, site of bite, etc., Snakebite envenoming, categorized as a neglected tropical disease (NTD), inflicts significant suffering, disability, and premature death globally. The economic burden of snakebite envenoming is overwhelming for many countries, impacting not just the victims but often extending to their entire families, especially in impoverished communities within low- and middle-income countries lacking adequate social security measures.[1] Between 2000 and 2019, an estimated 1.2 million snakebite deaths occurred in India, averaging 58,000 annually. Victims were mainly aged 30–69 years (half) and children < 15 years (over a quarter). Most incidents happened in rural homes, with 70% concentrated in eight states, particularly during the rainy season and at lower altitudes. The overall risk of an Indian dying from snakebite before 70 is 1 in 250.[2]

As the duration of the current study was two years (January 2019–2021), the meteorological parameter (temperature) or season could have been taken into consideration. Research conducted in Israel determined that the likelihood of snakebites increased with temperatures exceeding 23°C, showing a positive association (odds ratio [OR]: 1.24, 95% confidence interval [CI]: 1.01–1.53). The study also identified correlations with heat waves, indicating elevated risk during both cold seasons (OR: 1.62, 95% CI: 1.01–2.60) and hot seasons (OR: 1.50, 95% CI: 1.18–1.92).[3] Between 2000 and 2017, Texas experienced eleven tropical storms or hurricanes, with nine of them resulting in individual assistance declarations. Over the 18-year period, there were 2037 reported snakebites within 30 days before and after landfalls in the impacted counties of nine storms. Of these, 132 (6%) occurred in the post-storm period, and 9% of the case narratives attributed hurricanes as a contributing factor.[4] Over a 20-year period in California, patterns of precipitation and drought significantly influenced snakebite occurrences. Incidence decreased after periods of drought and increased following episodes of precipitation.[5] The escalation of snakebite incidents due to climate change underscores the imperative for additional research on this correlation. Furthermore, proactive measures, such as bolstering the workforce and ensuring sufficient antivenom stock during high-risk periods exacerbated by climate change, are essential for effective mitigation and response strategies.

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Conflicts of interest

There are no conflicts of interest.

Prerna Verma, Gayatri R. Nair

Department of Community Medicine, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pune, Maharashtra, India

Address for correspondence: Dr. Gayatri R. Nair, Department of Community Medicine, Dr. D.Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune – 411 018, Maharashtra, India.
E-mail: gayatrirnair97@gmail.com

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