APCRI Journal
Volume 27, Issue 2- 2025, Pg. No. 5-6
Peer Reviewed & Open Access Journal

Research Article

An Analysis of Seasonal Trends of Wild Animal Bite Cases Attending an Anti-Rabies Clinic of a Tertiary Care Hospital in Southern Odisha

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DOI: https://doi.org/10.24321/0973.5038.202513

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How to cite this article:
Nayak Y, Satapathy D M, Patnaik A, Sahoo A, Sahoo S, Panda A. An Analysis of Seasonal Trends of Wild Animal Bite Cases Attending an Anti-Rabies Clinic of a Tertiary Care Hospital in Southern Odisha APCRI J. 2025; 27(2): 5-6.

A B S T R A C T

Introduction: In areas with dense forest cover and frequent human–wildlife interactions, bites from wild animals are quite common.

Objective: To analyse the seasonal trend and bite load from wild animals.

Methods: A hospital record-based, retrospective cross-sectional study was conducted in the anti-rabies clinic for the two-year period of April 2022 to March 2024.

Results: Out of 2676 cases of wild animal bites, monkey bites (96%) were the most frequent, followed by bites by jackals (3%) and wild boars (1%). The vast majority of bites were severe/category III (88%), and the rest were moderate/ category II (12%). The monkey bites exhibited significant surges during March 2023 and March 2024.

Conclusion: Understanding the bite load and seasonal trends of wild animal bites is essential for effective public health planning and resource allocation, particularly at anti-rabies clinics.

Keywords: Animal Bites, Wild Animals, Rabies, Seasonal Trends

Introduction

Rabies remains a critical public health issue, particularly in low- and middle-income countries, where access to prompt post-exposure prophylaxis is often limited. While domestic animal bites, especially from dogs, account for the majority of rabies cases, bites from wild animals also contribute significantly to the transmission of the disease, particularly in areas with dense forest cover and frequent human-wildlife interactions. The World Health Organisation estimates that rabies is responsible for tens of thousands of deaths annually, highlighting the need for continued surveillance and prevention efforts.[1]

Recent studies have emphasised the importance of understanding the temporal and seasonal trends of animal bite incidents to strengthen rabies control strategies. Grover et al[2] reported a distinct seasonal variation in animal bite cases, with higher incidence during warmer months, potentially linked to increased outdoor human activity and animal breeding behaviour. Similarly, Jethani et al[3] observed notable epidemiological trends in bite cases reported to an anti-rabies clinic in Delhi, stressing the value of region-specific data for targeted interventions. On a global scale, Vodopija et al[4] analysed jackal bite cases over a 20-year period in Zagreb, demonstrating the significance of long-term surveillance in understanding wild animal-related

rabies risks. Given the ecological diversity of Southern Odisha and its close proximity to forested areas, it is crucial to explore the seasonal trends of wild animal bite cases to inform public health planning. Therefore, the objective of the study was to analyse the seasonal trends of wild animal bites reported at an anti-rabies clinic (ARC) over a specified period, highlighting peak periods of incidents and potential factors influencing these trends.

Methods

This hospital record-based, retrospective cross-sectional study was conducted at the Anti-Rabies Clinic of MKCG Medical College Hospital, Berhampur, Ganjam, Odisha. The study population consisted of all cases of wild animal bites reported to the clinic over two years, from April 2022 to March 2024. All available records of wild animal bite cases were included and analysed, while cases related to domesticated dog and cat bites were excluded from the study. The collected data were entered into a Microsoft Excel spreadsheet and subsequently analysed using SPSS version 17, applying proportion and trend analysis to assess the study outcomes.

Results & Discussion

A total of 2676 victims were exposed to bites of wild animals during a two-year period. This accounted for about 3 to 4 cases of wild animal bites per day in the ARC. It was found that monkey bites were the most frequent (96%), followed by jackal bites (3%) and boar bites (1%). The vast majority of exposures were severe, Category III (88%), followed by moderate, Category II (12%), and there were no mild exposures.

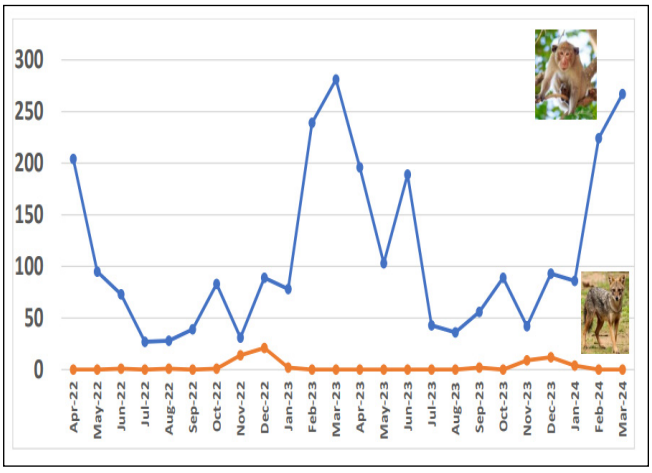

Figure 1.Seasonal trends of monkey and jackal bites (N= 2676)

The monkey bites exhibited noticeable fluctuations, with recurring peaks and a decline over time. Significant surges were observed around March 2023 and March 2024, where cases surpassed 250. But the jackal bites remained consistently low throughout the period. There were slight increases around December 2022 and 2023, but the numbers never rose substantially. (Fig.1)

Seasonal shifts have a profound effect on the frequency of these bites, with specific times of the year experiencing notable surges. These fluctuations are often influenced by factors such as environmental conditions, wildlife behaviour, and human activities. The data highlights the importance of enhancing public awareness and implementing preventive measures during peak seasons to reduce the risk of rabies and other diseases transmitted by wild animals.

Conclusion

The present study concluded that wild animal bites were severe in nature, and monkeys were the main cause of bites that increased during March. Understanding the seasonal trends of wild animal bites is essential for effective public health planning and resource allocation, particularly at anti-rabies clinics.

It is also recommended that regular Information, Education, and Communication (IEC) campaigns should be organised at local and regional levels, aimed at educating the public on how to avoid wild animal bites and protect themselves from related diseases. Further research into the ecological and behavioural factors driving these seasonal variations is critical for developing more targeted and effective strategies for bite prevention and rabies control.

Authors' Contribution: All authors contributed equally to the conception, design, analysis, drafting, and final approval of the manuscript.

Conflict of Interest: None

Source of Funding: None

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process: None

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ISSN: 0973-5038
DOI: https://doi.org/10.24321/0973.5038.202513