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EFFECT OF A STRUCTURED EDUCATIONAL INTERVENTION ON RABIES KNOWLEDGE AMONG THIRD- AND FINAL-YEAR MBBS STUDENTS: A QUASI-EXPERIMENTAL PRE–POST STUDY

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ABSTRACT

Background: Rabies is an almost invariably fatal but entirely preventable zoonotic disease, and appropriate wound management and post-exposure prophylaxis (PEP) delivered by knowledgeable healthcare providers are central to its prevention. Medical students are the physicians of the future, yet knowledge gaps regarding rabies epidemiology, prophylaxis and national guidelines have been reported among undergraduate medical (MBBS) students in India. This study assessed the effect of a structured educational intervention on rabies-related knowledge among third- and final-year MBBS students.

Materials and Methods: A non-randomised, quasi-experimental study with a pre-test/post-test design and no control group was conducted among third- and final-year MBBS students at Dr. KNS Memorial Institute of Medical Sciences, Barabanki, Uttar Pradesh, from February to March 2025. A minimum sample size of 246 was calculated ($Z = 1.96$, $p = 80\%$, $e = 5\%$); 300 students were enrolled to allow for non-response and absence. A predesigned, pretested structured questionnaire administered via Google Forms assessed knowledge across nine domains before and after a one-hour structured educational intervention (a 40-minute interactive lecture and a 20-minute audiovisual demonstration/discussion). The same questionnaire was re-administered four weeks later. Pre- and post-intervention overall knowledge scores were compared using the Wilcoxon signed-rank test (paired analysis, $n = 295$), with effect size expressed as $r = |Z|/\sqrt{N}$; $p < 0.05$ was considered significant.

Results: Of 300 students assessed at baseline, five final-year students were absent from the intervention and post-test, leaving 295 students (98.3%) in the paired analysis. Correct responses increased across all nine knowledge domains, with the largest gains in vaccination regimens (+48.1 percentage points), post-exposure prophylaxis (+47.8 percentage points) and animal-bite wound management (+46.8 percentage points). The proportion of students with good overall knowledge increased from 94 (31.9%) before the intervention to 235 (79.7%) afterward, while poor knowledge decreased from 88 (29.8%) to 13 (4.4%). The mean overall knowledge score rose from 15.2 ± 3.8 to 23.1 ± 3.4 (Wilcoxon signed-rank test, $Z = -14.04$, $p < 0.001$), corresponding to a large effect size ($r \approx 0.82$).

Conclusion: A brief, structured one-hour educational intervention was associated with a substantial improvement in rabies-related knowledge among third- and final-year MBBS students across all nine assessed domains. These findings support the incorporation of focused, structured teaching sessions on rabies prevention and management into undergraduate medical curricula, although the single-group pre-test/post-test design without a control group limits causal inference and durability of the effect could not be assessed.

Keywords: Rabies; Knowledge; Educational intervention; Medical students; MBBS; Post-exposure prophylaxis; Pre-test post-test study.

INTRODUCTION

Rabies is a fatal viral zoonosis that, once clinical symptoms develop, is almost invariably lethal; it remains, however, one of the most completely preventable infectious diseases known to medicine. The World Health Organization (WHO) estimates that dog-mediated rabies causes approximately 59,000 human deaths every year, the great majority of them in Asia and Africa, with dogs responsible for up to 99% of all human rabies transmissions.[1]

India bears one of the largest shares of this global burden. According to WHO, India accounts for approximately 36% of the world's rabies deaths, with an estimated 18,000–20,000 deaths occurring annually, although the true burden is thought to be under-ascertained because of incomplete reporting.[2]

In recognition of this burden, the Government of India has implemented the National Rabies Control Programme and the National Action Plan for Rabies Elimination, which, in line with the global "Zero by 30" initiative, aim to eliminate dog-mediated human rabies deaths by 2030.[1,2]

Because rabies is essentially untreatable once symptoms appear, prevention after a potential exposure is the only effective intervention. This requires immediate and thorough wound washing, accurate categorisation of the exposure, and timely administration of post-exposure prophylaxis (PEP) — modern cell-culture rabies vaccines given by the intradermal or intramuscular route and, where indicated, rabies immunoglobulin — as set out in the WHO position paper on rabies vaccines and in India's National Guidelines for Rabies Prophylaxis (2019).[3,4] Correct pre-exposure prophylaxis (PrEP) is similarly important for individuals at occupational or other continuing risk.

Physicians and other healthcare professionals are typically the first point of contact for animal-bite victims, and the adequacy of their knowledge directly determines whether wound management and PEP are initiated correctly and completed on schedule. Studies of practising doctors in India have nonetheless identified persistent gaps in knowledge of wound care, rabies immunoglobulin use and vaccination schedules, underscoring that formal qualification does not by itself guarantee guideline-concordant knowledge.[11]

Undergraduate medical (MBBS) education offers a critical window in which to establish accurate, guideline-concordant knowledge of rabies before students enter clinical practice. Yet several Indian studies conducted among MBBS students and interns — at institutions in Uttar Pradesh, Rajasthan, Maharashtra and elsewhere — have documented incomplete knowledge of rabies epidemiology, PrEP/PEP schedules, wound management and national guidelines, and comparable deficits have also been reported among medical students internationally.[6,7,8,10] These findings suggest that rabies-related content in the undergraduate curriculum may not translate consistently into applied knowledge, and that dedicated, structured teaching sessions could usefully supplement routine instruction.

Prior quasi-experimental studies among medical students elsewhere in India have shown that brief, structured educational interventions can produce measurable improvements in rabies knowledge scores, using designs and statistical approaches (paired pre-/post-intervention comparison with the Wilcoxon signed-rank test) similar to those used here.[5] However, evidence specific to third- and final-year MBBS students — who are approaching internship and direct patient contact — from tertiary care teaching institutions in Uttar Pradesh remains limited.

Against this background, the present study was undertaken to assess the baseline level of rabies-related knowledge among third- and final-year MBBS students, to deliver a structured one-hour educational intervention addressing nine core knowledge domains, and to evaluate the change in knowledge following the intervention.

Objective: To assess the effect of a structured educational intervention on rabies-related knowledge among third- and final-year MBBS students, using a non-randomised, quasi-experimental pre-test/post-test design without a control group.

MATERIALS AND METHODS

Study design, setting and period: This was a non-randomised, quasi-experimental study employing a single-group pre-test/post-test design without a control group. The study was conducted at Dr. KNS Memorial Institute of Medical Sciences, Barabanki district, Uttar Pradesh, India, from February to March 2025. Knowledge was assessed before the educational intervention (pre-test), immediately followed by the intervention, and again four weeks later (post-test).

Study population and eligibility: All third- and final-year MBBS students of the institute who provided informed consent were eligible for inclusion. Students who did not consent, or who were absent from either the pre-test or the post-test assessment session, were excluded from the respective analyses.

Sample size and sampling: The minimum required sample size was calculated using the formula $n = Z^2p(1 - p)/e^2$, with $Z = 1.96$ (corresponding to 95% confidence), an expected proportion of adequate knowledge $p = 80\%$, and an absolute precision $e = 5\%$. This yielded a minimum requirement of approximately 246 participants. To allow for anticipated non-response and loss to follow-up (absence from either the pre-test or the post-intervention session), 300 students were enrolled at baseline.

Third- and final-year MBBS students were listed in order of their university enrolment number, and

simple random sampling was used to select and enrol participants from this list until the target sample size of 300 was reached.

Data collection tool and procedure: Knowledge was assessed using a predesigned, pretested, structured questionnaire administered electronically through Google Forms, with the survey link shared via WhatsApp. The questionnaire collected baseline demographic and academic information and assessed knowledge across nine domains: rabies epidemiology, mode of transmission, pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), rabies vaccines and immunoglobulins, animal-bite wound management, vaccination regimens, WHO recommendations, and national guidelines.

Participants completed the questionnaire as a pre-test immediately before the educational intervention. The same questionnaire was re-administered as a post-test four weeks after the intervention. Pre- and post-intervention responses were paired for each participant using institutional study records, and total knowledge scores were categorised as poor, average, and good knowledge

Educational intervention: All enrolled students received a single, structured, one-hour educational intervention. The session comprised:

- A 40-minute interactive lecture, supported by a PowerPoint presentation, covering rabies epidemiology and transmission, pre- and post-exposure prophylaxis, rabies vaccines and immunoglobulins, animal-bite wound management, vaccination regimens, and current WHO3 and national (National Guidelines for Rabies Prophylaxis, 2019)4 recommendations — corresponding to the nine knowledge domains assessed by the questionnaire; and
- A 20-minute audiovisual demonstration and facilitated discussion, reinforcing correct wound-washing technique, categorisation of animal-bite exposures, and stepwise post-exposure management, with opportunity for students to ask questions and clarify doubts.

Outcomes

Primary outcome: The change in overall rabies-related knowledge score between the pre-intervention and post-intervention assessments among the 295 students who completed both assessments, evaluated using the Wilcoxon signed-rank test.

Secondary outcomes: (i) the change in the proportion of correct responses within each of the nine individual knowledge domains before and after the intervention; and (ii) the change in the distribution of participants across the poor, average and good overall knowledge categories before and after the intervention.

Statistical analysis: Data were entered into Microsoft Excel and analysed using IBM SPSS Statistics version 26.0. Categorical variables (e.g., age group, sex, year of study, knowledge category) are presented as frequencies and percentages, and continuous variables (knowledge scores) as mean ± standard deviation (SD). Pre- and post-intervention overall knowledge scores were compared using the Wilcoxon signed-rank test for paired, non-normally distributed data, with a two-sided p-value < 0.05 considered statistically significant. The effect size for the Wilcoxon signed-rank test was calculated as $r = |Z|/\sqrt{N}$, where Z is the test statistic and N is the number of paired observations (N = 295); by conventional benchmarks, $r \approx 0.10$ represents a small effect, $r \approx 0.30$ a medium effect, and $r \approx 0.50$ or above a large effect. Domain-wise pre- and post-intervention results are presented descriptively as frequencies and percentages. No additional inferential statistical tests were performed.

Ethical considerations: The study was approved by the Institutional Ethics Committee of Dr. KNS Memorial Institute of Medical Sciences. Informed consent was obtained from every participant on the first page of the online form before the questionnaire was accessed. Participation was voluntary, and responses were kept confidential.

RESULTS

Participant characteristics: A total of 300 third- and final-year MBBS students were enrolled and completed the baseline (pre-intervention) assessment [Table 1]. The largest proportion of participants were aged 22–23 years (138, 46.0%), followed by 20–21 years (89, 29.7%) and 24 years or older (73, 24.3%). Females constituted a slight majority of the sample (165, 55.0%), and third-year and final-year MBBS students each contributed exactly half of the baseline sample (150, 50.0% each). Previous rabies-related teaching was reported by 117 students (39.0%), and a personal history of an animal bite was reported by 54 students (18.0%).

Table 1: Baseline demographic and academic characteristics of participants (N = 300)

Characteristic	Category	n	%
Age (years)	20–21	89	29.7
	22–23	138	46.0
	≥24	73	24.3
Sex	Male	135	45.0
	Female	165	55.0
Year of study	Third-year MBBS	150	50.0
	Final-year MBBS	150	50.0
Previous rabies teaching	Yes	117	39.0
	No	183	61.0
Personal history of animal bite	Yes	54	18.0
	No	246	82.0

Participant flow: Of the 300 students who completed the baseline pre-intervention assessment, five final-year students were subsequently absent from the educational intervention and the post-intervention assessment and were therefore excluded from the paired analysis. Consequently, 295 students (98.3% of the baseline sample) completed both the pre- and post-intervention assessments and were included in all paired pre-/post-intervention analyses [Table 2–4; Figure 1].

Domain-wise knowledge before and after the intervention: Among the 295 students who completed both assessments, the proportion of correct responses increased in every one of the nine knowledge domains following the educational intervention [Table 2]. Before the intervention, the highest proportions of correct responses were observed for mode of transmission (221/295, 74.9%) and rabies epidemiology (207/295, 70.2%), whereas the lowest proportions were seen for national guidelines (102/295, 34.6%), rabies vaccines and immunoglobulins (110/295, 37.3%), and vaccination regimens (117/295, 39.7%). After the intervention, the highest proportions of correct responses were again observed for mode of transmission (280/295, 94.9%), rabies epidemiology (274/295, 92.9%) and animal-bite wound management (272/295, 92.2%). The largest absolute improvements were seen in vaccination regimens (+48.1 percentage points), post-exposure prophylaxis (+47.8 percentage points) and animal-bite wound management (+46.8 percentage points), followed by national guidelines (+46.1 percentage points) and rabies vaccines and immunoglobulins (+45.4 percentage points).

Table 2: Correct responses by knowledge domain before and after the intervention (N = 295)

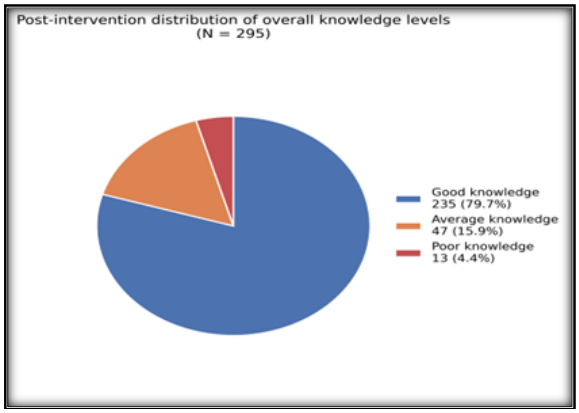
Knowledge domain	Pre-intervention, n (%)	Post-intervention, n (%)	Change (pp)
Rabies epidemiology	207 (70.2)	274 (92.9)	+22.7
Mode of transmission	221 (74.9)	280 (94.9)	+20.0
Pre-exposure prophylaxis	148 (50.2)	250 (84.7)	+34.5
Post-exposure prophylaxis	125 (42.4)	266 (90.2)	+47.8
Rabies vaccines and immunoglobulins	110 (37.3)	244 (82.7)	+45.4
Animal-bite wound management	134 (45.4)	272 (92.2)	+46.8
Vaccination regimens	117 (39.7)	259 (87.8)	+48.1
WHO recommendations	131 (44.4)	254 (86.1)	+41.7
National guidelines	102 (34.6)	238 (80.7)	+46.1

Values represent the number (%) of students giving the correct response for each domain. pp, percentage points. Incorrect/"don't know" responses are the complement of each value (n = 295 in each assessment).

Overall knowledge level: Before the intervention, 88 of 295 students (29.8%) had poor overall knowledge, 113 (38.3%) had average knowledge, and 94 (31.9%) had good knowledge (Table 3). Following the educational intervention, the proportion with poor knowledge fell to 13 students (4.4%), while 47 (15.9%) had average knowledge and 235 (79.7%) had good knowledge. The proportion of students with good knowledge therefore increased by 47.8 percentage points, while the proportions with poor and average knowledge decreased by 25.4 and 22.4 percentage points, respectively. The post-intervention distribution of overall knowledge levels is shown in [Figure 1].

Table 3. Overall knowledge category before and after the intervention (N = 295)

Knowledge level	Pre-intervention, n (%)	Post-intervention, n (%)
Poor	88 (29.8)	13 (4.4)
Average	113 (38.3)	47 (15.9)
Good	94 (31.9)	235 (79.7)
Total	295 (100.0)	295 (100.0)



[Figure 1] Distribution of overall knowledge levels among participants after the educational intervention (N = 295). Of the 295 students who completed both the pre- and post-intervention assessments, 235 (79.7%) had good overall knowledge, 47 (15.9%) had average knowledge, and 13 (4.4%) had poor knowledge following the intervention [Table 3].

Change in overall knowledge score: The mean overall knowledge score among the 295 paired participants increased from 15.2 ± 3.8 before the intervention to 23.1 ± 3.4 after the intervention, an increase of 7.9 points (Table 4). This difference was statistically significant on the Wilcoxon signed-rank test ($Z = -14.04$, $p < 0.001$). The corresponding effect size was $r = |Z|/\sqrt{N} = 14.04/\sqrt{295} \approx 0.82$, indicating a large effect by conventional benchmarks. Together, these results indicate a substantial and statistically significant improvement in overall rabies-related knowledge following the structured educational intervention.

Table 4: Comparison of pre- and post-intervention overall knowledge scores and effect size (N = 295)

Assessment	Mean ± SD	Z value*	p value	Effect size (r)†
Pre-intervention	15.2 ± 3.8	—	—	—
Post-intervention	23.1 ± 3.4	−14.04	<0.001	0.82 (large)

*Wilcoxon signed-rank test. †Effect size calculated as r = |Z|/√N (N = 295); by convention, r ≈ 0.10 = small, r ≈ 0.30 = medium, r ≈ 0.50 or above = large effect.

DISCUSSION

Principal findings: In this quasi-experimental, single-group pre-test/post-test study of 295 third- and final-year MBBS students, a single structured one-hour educational intervention was followed by a significant and large-magnitude improvement in rabies-related knowledge. Correct responses increased across all nine assessed domains, the proportion of students classified as having good overall knowledge rose from under one-third (31.9%) to almost four-fifths (79.7%), and the mean overall knowledge score increased by 7.9 points on the Wilcoxon signed-rank test ($Z = -14.04$, $p < 0.001$; $r \approx 0.82$).

Interpretation of the improvement in rabies knowledge

The pattern of improvement is informative. Baseline knowledge was already comparatively strong for the more descriptive, fact-based domains — mode of transmission and rabies epidemiology — for which pre-intervention correct-response rates exceeded 70%. In contrast, the domains reflecting procedural or guideline-specific knowledge that clinicians must apply in practice — vaccination regimens, post-exposure prophylaxis, animal-bite wound management, national guidelines, and rabies vaccines/immunoglobulins — had the lowest baseline scores (35–45% correct) and showed the largest absolute gains (45–48 percentage points) after the intervention. This suggests that the standard undergraduate curriculum may convey general epidemiological facts about rabies adequately, but leaves gaps in the applied, guideline-based knowledge that determines whether PEP is initiated and completed correctly in practice — precisely the gap that a short, structured, guideline-focused teaching session appears well suited to close.

Comparison with previous literature: The direction and, notably, the magnitude of improvement observed here are closely consistent with those reported in one of the few comparable Indian studies using a similar quasi-experimental, paired pre-/post-intervention design with the Wilcoxon signed-rank test.[5] Among 156 third-year medical students in Chennai, a one-hour educational intervention (a lecture and audiovisual session, closely resembling the structure used in the present study) raised the mean overall knowledge score from 14.9 ± 3.7 to 22.7 ± 3.23 (maximum possible score 29), with statistically significant gains particularly in the prophylaxis and national-guideline domains.[5] The comparable pre-intervention scores, comparable post-intervention scores, and comparable magnitude of gain in that study and in the present one, despite being conducted in different states and cohorts, lend support to the reproducibility of a brief structured intervention's effect on rabies knowledge among MBBS students.

Cross-sectional surveys of MBBS students and interns elsewhere in India provide further, converging evidence that knowledge gaps of the type targeted by the present intervention are widespread rather than confined to a single institution. Studies among second-year MBBS students in Rajasthan and among MBBS interns in Uttar Pradesh and central India have each reported incomplete knowledge of rabies prevention, wound management, or immunisation schedules, despite these students having received undergraduate teaching on the topic.[6-8] Similarly, a large cross-sectional study among medical faculty students in Turkey found that only a minority of students correctly recognised several indications for rabies vaccination and rabies immunoglobulin administration, indicating that such gaps are not unique to the Indian setting.[10] Persistent deficiencies have also been documented among practising physicians in India managing rabies post-exposure prophylaxis, reinforcing the argument that knowledge instilled — or not instilled — at the undergraduate stage may carry forward into clinical practice.[11]

Educational implications for MBBS undergraduate education

These findings suggest that a brief, low-cost, structured teaching session — a 40-minute interactive lecture combined with a 20-minute audiovisual demonstration and discussion, covering rabies epidemiology, prophylaxis, wound management and current national guidelines — can produce a substantial short-term improvement in the applied rabies knowledge of MBBS students nearing internship. Given the consistency of this effect with that reported from a different Indian teaching institution, structured, guideline-anchored rabies sessions of this kind may be a feasible and reproducible addition to community medicine or preventive medicine postings for third- and final-year MBBS students, particularly given that the domains with the largest knowledge deficits — PEP, wound management, vaccination regimens and national guidelines — are precisely those most relevant to a newly qualified doctor's first encounter with an animal-bite patient.

Strengths and Limitations

Strengths

- Relatively large sample (300 enrolled; 295 analysed) with a high paired-analysis retention rate (98.3%).

- Included both third- and final-year MBBS students and assessed nine key rabies-knowledge domains.
- Used the Wilcoxon signed-rank test with an effect-size estimate for paired comparisons.
- Four-week follow-up provided an indication of short-term knowledge retention.

Limitations

- The single-group pre-test/post-test design without a control group limits causal inference.
- The four-week follow-up assessed only short-term knowledge retention.
- Single-centre design may limit generalisability.
- Self-administered web-based assessment may introduce response bias.
- Five students were lost from the paired analysis, and selection bias cannot be excluded.
- Knowledge gain was assessed, but its translation into clinical practice was not evaluated.

Implications for Future Medical Education and Research

Future work could usefully extend these findings using a controlled design (e.g., a parallel group receiving standard teaching alone, or a stepped-wedge design across multiple batches or institutions) to isolate the specific contribution of the structured intervention from testing, recall and maturation effects. Longer-term follow-up, extending beyond four weeks, would help establish whether the observed gains in knowledge are durable or require reinforcement (e.g., periodic refresher sessions). Multi-centre studies across medical colleges with differing baseline curricula would help establish the generalisability of a brief, structured rabies teaching module, and future studies could also assess whether improved knowledge is accompanied by corresponding changes in students' attitudes and, ultimately, in their clinical practice of animal-bite management during internship.

CONCLUSION

In this non-randomised, quasi-experimental pre-test/post-test study without a control group, a brief structured one-hour educational intervention was associated with a large and statistically significant improvement in rabies-related knowledge among third- and final-year MBBS students, with gains observed across all nine assessed domains and a marked shift of students from poor/average to good overall knowledge categories. These findings support the value of incorporating focused, structured teaching sessions on rabies epidemiology, prophylaxis, wound management and national guidelines into undergraduate medical education. Because the study design lacked a control group and followed participants for only four weeks, the findings should be interpreted as demonstrating a significant pre-to-post change associated with the intervention rather than definitive proof of a causal, durable educational effect; controlled and longer-term studies are needed to confirm and extend these findings.

REFERENCES

1. World Health Organization. Rabies [Internet]. Geneva: WHO; 2024. Available from: https://www.who.int/news-room/fact-sheets/detail/rabies
2. World Health Organization Country Office for India. Rabies in India [Internet]. New Delhi: WHO; [cited 2026 Sep]. Available from: https://www.who.int/india/health-topics/rabies
3. World Health Organization. Rabies vaccines: WHO position paper, April 2018. Vaccine. 2018;36(37):5500–3.
4. Ministry of Health and Family Welfare, Government of India. National Guidelines for Rabies Prophylaxis, 2019. New Delhi: National Rabies Control Programme, National Centre for Disease Control; 2019.
5. Manoharan A, Chellaiyan VG, Madhusudan M. Effect of educational intervention on the knowledge of rabies among medical school students of Chennai. J Educ Health Promot. 2019;8:208.
6. Mali A, Solanki SL. An assessment of knowledge of prevention and management of rabies in second year MBBS students of American International Institute of Medical Sciences, Udaipur (Rajasthan). Int J Curr Res Rev. 2018;10(6):49–52.
7. Deori TJ, Jaiswal A, Debnath A, Sharma S, Phukan A. Awareness of rabies among MBBS interns of a government medical college of North India: a cross-sectional study. Int J Community Med Public Health. 2022;9(4):1692–6.
8. Mishra A, Jadhao AR, Pandey S, Khetre KD. A cross-sectional study on knowledge of epidemiological determinants, prevention and management of rabies among MBBS interns of a tertiary health care center of central India. Int J Community Med Public Health. 2024;11(4):1570–8.
9. Chandrappa GH, Kumari R. Knowledge on rabies transmission, immunisation and wound management among medical undergraduate students at a medical institute in North India. Int J Community Med Public Health. 2026;13(2):743–7.
10. Pervane VD, Erten Bucaktepe PG, İnce FM, Demir D, Koç S. Rabies disease and prophylaxis knowledge among Turkish medical students: insights from a cross-sectional study. Trop Med Infect Dis. 2025;10(1):9.
11. Pradhan M, Singh S, Jain C, Marathe N, Sharma A, Namdeo P. Awareness on recent guidelines for rabies prophylaxis among healthcare professionals in Rewa District, Madhya Pradesh, India: a questionnaire-based cross-sectional study. J Clin Diagn Res. 2024;18(3):LC01–LC05.