VOLUME - 12, ISSUE - 06, JUNE - 2023 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Community Medicine

# KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT RABIES PRE-EXPOSURE PROPHYLAXIS AMONG INTERNS IN SMS MEDICAL COLLEGE, JAIPUR,RAJASTHAN: A CROSS -SECTIONAL STUDY

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## ABSTRACT

**Background:** Rabies is a 100% fatal disease. Therefore, training of Health care professionals about Rabies and its Pre-Exposure Prophylaxis (PrEP) is essential. Interns of a Medical College are the future high-risk category professionals. PrEP reduces the number of vaccine booster doses required and eliminate the need to administer rabies immunoglobulin after re-exposure any time later. **Objectives:** To assess the knowledge, attitude and practice regarding Rabies and PrEP among interns of Sawai Man Singh Medical College, Jaipur, Rajasthan. **Materials and Methods:** An observational cross-sectional study was conducted among interns of SMS Medical College, Jaipur from October to November 2022. A sample size of 100 was calculated at 95% confidence and 10% absolute allowable error to verify the expected 39% knowledge in PrEP among interns (Deori TJ et al). A structured pre-tested questionnaire was used to collect the data. **Results:** Out of the 100 interns who consented, 98% were aware of the transmission mode of the rabies virus, while only 58% knew the family of the causative organism. Only 30% knew about clinical features of a rabid dog. Although 93% of them knew the importance of taking PrEP of Rabies for medical professionals and animal handlers, only 68% knew the correct PrEP schedule. Regarding the first-aid treatment of animal bite, 94% of the interns answered correctly. 92% were willing to take vaccine but only 77% were willing to spread awareness of PrEP 60% suggested PrEP vaccine should be made available for everyone whereas only 85% were ready to attend awareness camps. **Conclusions:** There were gaps in knowledge, attitude and practice regarding PrEP of rabies among interns. Hence there is a need to reinforce the training of interns.

**KEYWORDS :** Pre-exposure prophylaxis, Interns, Rabies, Sawai Man Singh Medical College.

## INTRODUCTION

Rabies a viral zoonosis, human infection usually occurs after a bite or scratch by an infected animal (WHO, 1992). Globally, human mortality from endemic canine rabies was found to be 55,000 deaths per year and 56% of the estimated deaths occur in Asia and 44% in Africa (WHO, 2007). About 98% of the human rabies cases occur in developing countries that possess large number of dogs, many of which are stray (WHO, 2004)[1].

According to the WHO, well-practiced pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) can prevent human rabies completely. Lack of knowledge regarding the classification of animal bite wounds leads to improper vaccination continue to be seen in other parts of the world and India[2].

To prevent rabies deaths, appropriate knowledge regarding rabies and its prevention among the medical students is very important as they are the physicians of future. Keeping in view the above points, the present study was designed to assess the knowledge regarding rabies and its prevention among the interns of SMS Medical College, Jaipur[3].

## OBJECTIVES

Objectives of the study were to assess the awareness of MBBS interns regarding PrEP of Rabies.

## METHODS

An observational cross-sectional study was conducted among interns of Sawai Man Singh Medical College, Jaipur during October to November 2022. Rajasthan University of Health Science takes in 250 MBBS students every year, and 270 students passed out and enrolled as interns. A sample size of 100 was calculated at 95% confidence and 10% absolute error to verify the expected 39% knowledge in PrEP among interns (*Deori TJ et al*). Complete enumeration was done, and information about the study was given to all the interns who was posted in Anti Rabies Clinic (ARC). Out of these, 100 interns who were willing to participate in the study were enrolled after taking informed written consent. Data collection for the study was done online through a structured questionnaire in English as Google form consisting of 20 multiple choice questions, all had one correct response. The questionnaire was divided into three sections viz knowledge, attitude and practice regarding PrEP of rabies.

### Knowledge Scoring

Based on the questions, scoring was done with one mark given for each correct response. A total scoring of 10 was taken as the maximum score. Scores within 0-4 marks were considered as "poor knowledge", 5-8 as "average knowledge" and 9-10 as "good knowledge".

### Data Analysis

Knowledge regarding different questions is presented as frequency and percentages. Data analysis was done using Microsoft XL.

### Ethical Consideration

Permission was obtained from institutional ethical committee of Rajasthan Medical University Jaipur, before commencing study.

## RESULTS

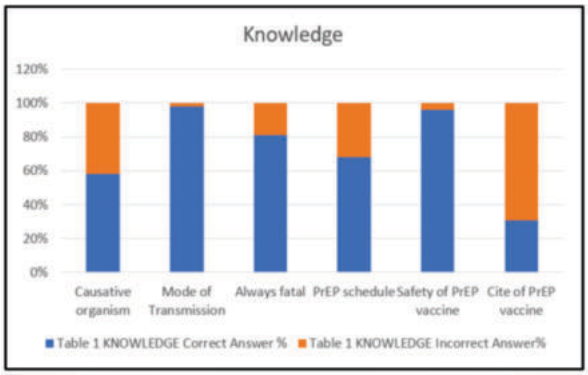
A total of 100 interns were included in the study. Among the participants 98 were male and 62 were female. The mean age of the participants was 23.4 (2 SD±1.8) Out of 100 interns who took part in the study, 98% were aware of the transmission mode of the rabies virus, while only 58% knewthe *family* of the causative organism.

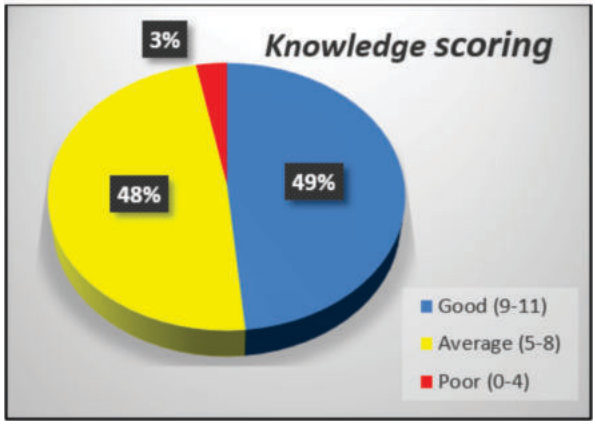
Only 30% knew about clinical features of a rabid dog. Although 93% of them knew the importance of taking PrEP of

Rabies for medical professionals and animal handlers, only 68% knew the correct PrEP schedule. Regarding the first-aid treatment of animal bite, 94% of the interns answered correctly (Table 1).

**Table 1: Knowledge regarding the PrEP of rabies among the interns.**

| KNOWLEDGE | Correct Answer % |
|---|---|
| Causative organism | 58% |
| Mode of Transmission | 98% |
| Fatality | 81% |
| PrEP schedule | 68% |
| Safety of PrEP vaccine | 96% |
| Cite of PrEP vaccine | 31% |




92% were willing to take vaccine but only 77% were willing to spread awareness of PrEP (Table 2).

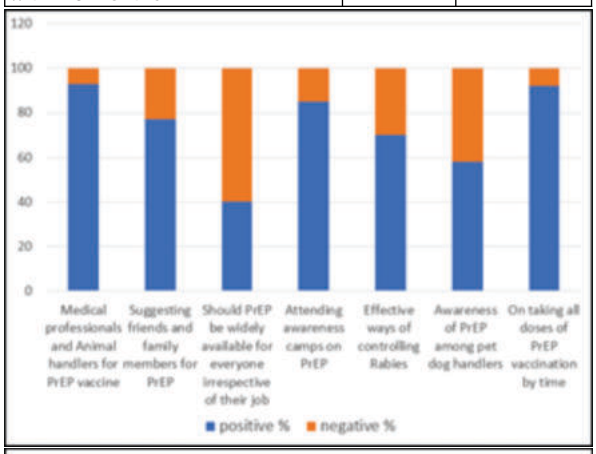
**Table 2: Attitude regarding the PrEP of rabies among the interns.**

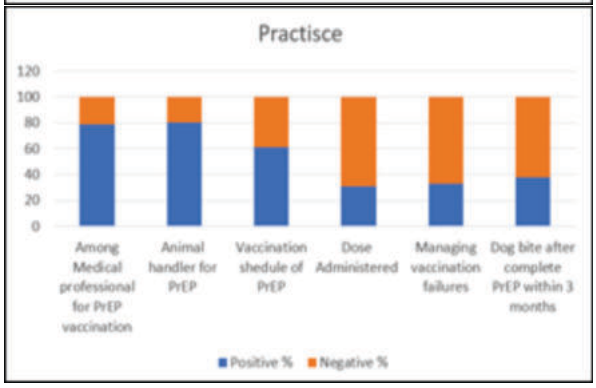
| ATTITUDE | Positive % |
|---|---|
| Medical professionals and Animal handlers for PrEP vaccine | 93 |
| Suggesting friends and family members for PrEP | 77 |
| Should PrEP be widely available for everyone irrespective of their job | 40 |
| Attending awareness camps on PrEP | 85 |
| Effective ways of controlling Rabies | 70 |
| Awareness of PrEP among pet dog handlers | 58 |
| On taking all doses of PrEP vaccination by time | 92 |

60% suggested PrEP vaccine should be made available for everyone whereas only 85% were ready to attend awareness camps (Table 3).

**Table 3: Practice regarding the PrEP of rabies among the interns.**

| PRACTICE | Positive % | Negative % |
|---|---|---|
| Among Medical professional for PrEP vaccination | 79 | 21 |
| Animal handler for PrEP | 80 | 20 |
| Dose Administered | 31 | 69 |
| Vaccination schedule of PrEP | 61 | 39 |
| Managing vaccination failures | 33 | 67 |
| Dog bite after complete PrEP within 3 months | 38 | 62 |




## DISCUSSION

There are about 1.7% of animal bites in India every year, mostly from stray animals [4]. To prevent the development of human rabies, all physicians must have a thorough understanding of animal bite management and rabies vaccination. A group of specialists on rabies from seven Asian countries have emphasized the shortage of awareness among general practitioners concerning rabies[5]. Studies from India and other countries in Southeast Asia have stated a high level of knowledge among physicians concerning vectors, causative organisms, incubation period, mode of transmission, or the case fatality rates of the disease, but very few studies reported on the knowledge of physicians regarding animal bite management and rabies prophylaxis.[6,7]

In the present study, we could conclude that the knowledge among medical interns regarding rabies is primarily average; interns have excellent knowledge about the route of transmission, PEP and first aid treatment and insufficient knowledge regarding preexposure prophylaxis and rabid animals. The 98 % of the interns were aware of the mode of transmission of the rabies virus, while only a mere 58% knew about Rabies' causative organism and family they belong. Similarly, although 96% of them knew safety of preexposure prophylaxis, only 68% knew the correct preexposure prophylaxis schedule but only 31% knew about the cite of pre-exposure prophylaxis.

The attitudes were mostly positive, i.e., they all we're willing to encourage medical professionals to get vaccinated, and they were willing to go for complete immunization in case of an animal bite. Regarding Practice, the scores were mostly low as most of the health workers had not been encouraging for their PrEP vaccination because they did not have time in their busy schedule for this.

**Strength And Limitations**

The present study is unique as we also tried to study the knowledge, attitude and practice of PrEP of rabies immunization. The present study has a few limitations like small sample size and the study being done in only interns; this could limit the generalization of the findings.

## CONCLUSION

The lack of knowledge of health workers might translate to higher morbidity and mortality related to rabies in their respective work areas. There is a need for sensitization of health workers so that their PrEP knowledge can be enhanced and their positive attitude further that can be translated into proper practices for prevention and control of Rabies.

**Recommendation** Reorientation training should be given to them from time to time. The rabies KAP could be further enhanced through the use of IEC materials.

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