

Original Research Article

Knowledge regarding rabies and its prevention among first year medical college students, Mandya

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Received: 06 September 2018

Accepted: 04 October 2018

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ABSTRACT

Background: Rabies is a zoonotic disease that is caused by a virus and is always fatal which can be prevented by timely and appropriate post exposure prophylaxis. The large number of deaths due to rabies can be attributed to the fact that in spite of availability of effective vaccination against rabies, people are unaware of various aspects of rabies and its prevention. Hence this study was conducted to assess the knowledge regarding rabies and its prevention among first year medical students.

Methods: This descriptive cross sectional study was conducted among first year medical students of Mandya Institute of Medical Sciences, Mandya. The data was collected using pretested semi-structured questionnaire and analysed using descriptive statistics.

Results: Of the total 80 students who were included, 90.0% knew that rabies is a disease caused by a virus. All of them knew that dogs transmit rabies. 96.3% were aware of the mode of transmission. 30.0% answered that rabies can be transmitted by scratch. 25% had the wrong perception that rabid person can present with epileptic features. 28.8% had given correct answer regarding the number of doses of vaccination. 86.3% knew that rabies can be prevented by vaccinating animal.

Conclusions: Majority of the students had incomplete knowledge about rabies and its cause and mode of transmission and unaware of post exposure prophylaxis.

Keywords: Rabies, Knowledge, Prevention, Medical students

INTRODUCTION

Rabies is a zoonotic disease that is caused by a virus. The disease affects domestic and wild animals, and is spread to people through close contact with infectious material, usually saliva, via bites or scratches.

Rabies is present on all continents with the exception Antarctica. More than 95% of human deaths occur in Asia and Africa.¹ Though, human rabies has been eradicated in some developed countries, it continues to be endemic in India, except Union Territory of Lakshadweep and, Andaman and Nicobar islands.

In India alone, rabies causes an estimated 20,000 deaths with 17.4 million exposures to animal bite every year.² Rabies is 100% fatal disease but can be prevented by timely and appropriate post exposure prophylaxis which includes wound management, administration of anti rabies vaccine and rabies immunoglobulin if required.

There are many myths, false beliefs and inappropriate practices associated with wound management after a dog bite. These include application of oils, herbs, and red chillies on the wounds inflicted by rabid animals. More faith in indigenous medicines that are of unproven efficacy and not wetting the wound because of the fear

that it would get infected are the other practices highlighted in other studies.³

Awareness is an effective tool for the prevention of rabies. The large number of deaths due to rabies can be attributed to the fact that in spite of availability of effective vaccination against rabies, people are unaware of various aspects of rabies and its prevention. If people are not aware of the facts and available preventive measures against rabies, there will be no utilization of the resources available at antirabies clinic. Hence this study was conducted to assess the knowledge regarding cause and transmission of rabies among first year medical students and to assess their awareness regarding post exposure prophylaxis to prevent rabies.

METHODS

Study design and study period

Descriptive study conducted for three months (from 1 January 2017 to 31st March 2017).

Study participants

The study participants consisted of 80 out of 94 first year medical students of Mandya Institute of Medical Sciences Mandya (MIMS, Mandya). We included only first year students as they will not be exposed to the theory topics related to rabies and more or less their knowledge about rabies would be of any other pre university exam passed students. All the 80 students who were present of both sexes, in the study population were included in the study.

Ethics approval

Approval of the Institutional Ethics Committee was obtained prior to commencement of the study.

Consenting procedure

The Students were explained the purpose of the study and Informed consent was obtained.

Assessment tools

A pilot study was conducted among 35 nursing students. Questionnaire was translated into both the languages and back-translated by an independent coworker proficient in both languages to ensure validity of the translation. Information was obtained from consenting respondents using a pre-tested structured questionnaire containing questions on cause, transmission, prevention and other various aspects of rabies.

Statistical analysis

Collected Data was entered in Microsoft excel sheet 2013 and the results were analyzed and interpreted using

descriptive statistics including proportions and percentages.

RESULTS

Of the total eighty study participants, 72 (90.0%) knew that rabies is a disease caused by a viral infection. 8 (10.0%) had the wrong notion that it is a bacterial infection. All of them had the awareness that dogs can transmit rabies. 36 (45.0%) had the knowledge that cat can also act as a reservoir. 6 (7.5%) knew that animals like sheep, goat, horse, donkey, cow, buffalo, etc. can transmit rabies. Only 4 (5.0%) knew that wild animals can transmit rabies. Only 2 (2.5%) had the knowledge that monkeys could transmit rabies. 21 (26.3%) had the wrong notion that rodents like domestic rats, bandicoots, squirrel, etc. could transmit rabies.

77 (96.3%) knew that the mode of transmission of rabies is by the bite of the rabid animal. 24 (30.0%) knew that rabies can be transmitted by scratch. 20 (25.0%) knew that licking and 6 (7.5%) knew that drinking raw milk from rabid animal can cause rabies. Only 8 (10.0%) students had given correct answer that one has to take rabies vaccine even if he is exposed to a vaccinated animal.

The responses regarding the manifestations of rabies in dogs were 52 (65.0%) unprovoked bite, 48 (60.0%) excess salivation, 6 (7.5%) not eating, 9(11.3%) responded that there will be death of the animal if it is affected by rabies. 29 (36.3%) students responded correctly that the rabid dog/cat will die within 10 days of bite. 19 (23.8%) and 32 (40%) students have wrong notion that the animal will die within 5 days and 15 days respectively after the bite.

Only 15 (18.8%) students had given the correct answer for the time of manifestation of disease after the bite. 27 (33.8%) had responded that manifestation of the disease will occur exactly after 1 week of the bite and 17 (21.3%) students 2 month and 6 (7.5%) responded as one year.

47 (58.8%) students responded that man infected with rabies will have the features of hydrophobia. 34 (42.5%) students knew that rabid person behaves like mad. 20 (25%) had the wrong perception that they can present with epileptic features. 58 (72.5%) students knew that rabies is a dead end disease. 40(50%) students thought that it can spread from person to person.

71 (88.8%) students had answered correctly that the victim has to receive vaccine if bitten by animal. 23 (28.8%) students had given the correct answer regarding the number of doses of vaccination. But 30(37.5%) had answered that the victim has to receive 14 doses and 8(10%) believed that it is 10 doses. 8(10%) had answered that they have to receive only 1 dose.

Table 1: Distribution of students based on knowledge about various aspects of rabies.

	No of students	Percentage (%)
Causative agent		
Bacteria	4	5.0
Virus	72	90.0
Fungus	4	5.0
Reservoir #		
Dog	80	100
Cat	36	45
Animals like sheep, goat, horse, donkey, cow, buffalo	06	7.5
Wild animals	04	5.0
Monkey	02	2.5
Rodents	21	26.3
Mode of transmission#		
Bite	77	96.3
Scratch	24	30.0
Lick *	20	25.0
Drinking raw milk**	6	7.5
Manifestations in rabid animals#		
Biting without provocation	52	65.0
Excess salivation	48	60.0
Unable to eat	6	7.5
Death of the animal	9	11.3
Irritants application#		
Turmeric	25	31.3
Sap	6	7.5
Coffee powder	2	2.5
Number of doses of vaccination##		
5 doses	23	28.8
14 doses	30	37.5
10 doses	8	10.0
1 dose	8	10.0

#Multiple responses; *On non intact skin; **from rabid animal, ##11 (13.8) - non respondents.

With regard to their knowledge on first aid measures, 2 (2.5%) students had wrong notion that they have to apply coffee powder on the bite wound. 18 (22.5%) students answered that they have to tie wound with cloth. Only 27 (33.8%) students had given correct answer that they have to wash wound with soap and water. 4 (5%) students had wrong notion that wound should be immediately stitched. Other 4 (5%) students thought that the wound should be tied with the cloth after keeping a coin in between.

3 (3.8%) students had given correct answer that they can apply Dettol over the wound. But 25 (31.3%) students have the wrong notion that applying turmeric over the wound is necessary as a first aid measure. 6 (7.5%) students had wrong notion that they have to apply sap over the wound.

Most of the students 77 (96.3%), had opined that victim has to consult doctor after bitten by any animal and 44

(55%) students knew that animal bite victim should receive tetanus toxoid after the bite. 69 (86.3%) students knew that rabies can be prevented by vaccinating animal (dog/cat). 09 (11.3%) students had opined that the number of animals should be reduced to prevent rabies.

DISCUSSION

Our study was conducted among first year medical students as they would not be exposed to any curriculum on rabies and their knowledge on rabies and its prevention would be similar to that of the any student who had just completed the pre university education so that their will not be bias. In our study, 90% of them knew that rabies is caused by virus transmitted through bite of the animals (96.3%). All of them knew that it is transmitted through dogs which is similar to other studies conducted by Praveen⁴ and Vinay et al.⁵

Regarding clinical manifestations among rabid animals, 65.0% had responded the correct answer that they can present with features like excessive salivation and bite without provocation whereas in the study conducted by Sarkar et al, 83% knew about the signs and symptoms correctly.⁶ This can be attributed to the fact that the study subjects in the respective study were students and interns who would have learnt about rabies in their classes.

In our study, all of them knew that dog was the major reservoir of the infection which was similar to a study by Jasleen and Sarkar et al and it is comparable with other studies.⁵⁻⁸ 45% had the knowledge that cat can also act as a reservoir. Only 7.5% knew that animals like sheep, goat, horse, donkey, cow, buffalo, etc can transmit rabies which was less when compared to other studies.^{5,6} Only 4 (5.0%) knew that wild animals can transmit rabies. Only 2 (2.5%) had the knowledge that monkeys could transmit rabies. 26.3% had the wrong notion that rodents like domestic rats, bandicoots, squirrel, etc could transmit rabies which was also noted in study conducted by Praveen et al.⁴

Our study showed that 96.3% had the knowledge that the mode of transmission of rabies is by the bite of the rabid animal. 30.0% knew that rabies can be transmitted by scratch. These findings are similar to study conducted by Praveen and Prakash et al only 25.0% knew that licking and 7.5% knew that drinking raw milk from rabid animal can cause rabies.^{4,9} Hence this should be emphasized while giving health education.

With regard to vaccination, majority, 88.8% students had answered that the victim has to receive vaccine if bitten by animal. But most of them did not know the correct number of doses and 37.5% had answered that the victim has to receive 14 doses. The study by Sarkar et al revealed that only 11% had correct knowledge regarding post exposure prophylaxis for category I which is comparatively less in our study.⁶

CONCLUSION

Most of the study subjects had the knowledge that rabies is caused by virus through dog bite. More than half of them knew about the manifestations in rabid animals and in person affected by rabies. More than one third of them had the wrong notions regarding first aid measures and only one third of them knew that wound has to be washed with soap and water. Majority of the students had the knowledge to receive vaccine if bitten by a suspected rabid animal but had poor knowledge regarding the number of doses of intramuscular vaccine. Hence this study recommends that curriculum of secondary school or pre university colleges should include the chapter on rabies emphasizing on its manifestation and preventive aspects which can indirectly improve the awareness among the community.

ACKNOWLEDGEMENTS

Authors would like to thank all the study participants. Authors are also grateful to the authors, editors, publishers of the all those articles, books and Journals which had helped to write review of literature and discussion.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Manjunath M, Manuja LM, Harish BR. Knowledge regarding rabies and its prevention among first year medical college students, Mandya. Int J Community Med Public Health 2018;5:4905-8.