

Title: **Assessment of Knowledge of Pharmacy Students Regarding Animal Bite and its Management**

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Abstract *INTRODUCTION:*

Rabies is a fatal disease but preventable by proper management of dog bite wound. Most of the time victims of dog bite do not get proper treatment due to lack of knowledge on wound treatment. In periphery, due to shortage of doctors pharmacists are managing OPD and IPD. In this context, the present study was carried out with the following objectives.

OBJECTIVES:

To assess the knowledge of pharmacy students regarding animal bite and its management during their internship.

MATERIALS AND METHODS:

It was a cross sectional study carried out in May 2020 based on pretested predesigned questionnaire. 100 pharmacy students posted in various OPDs of MKCG medical college were interviewed regarding knowledge and perception of animal bite features and its management, out of which 38 were female and 62 male. Data was collected and analysed using SPSS 17. Frequencies were tabulated for demographic variables.

RESULTS:

Out of the total 100 students interviewed, 62% were male and 38% female students. Dog bite is the main cause of rabies opined by 83% of students. 72% students opined that washing of bite wound with soap and water should be the first aid after dog bite.

Rabies can be prevented by pre exposure vaccination is known by only 17% of pharmacy students. Majority of students knew the correct schedule of post exposure ARV.

CONCLUSION :

Knowledge of site, route, dose and schedule of ARV and RIG is not satisfactory in many pharmacy students which should be improved by conducting training programme by the government.

INTRODUCTION

Rabies is a fatal disease of the central nervous system. It is transmitted to man usually by bites of rabid animals. The majority of the cases of rabies are due to bites from rabid dogs followed by bites from other animals like the monkey, fox, cat, cow, pig, camel and all wild animals. Annually, 50,000 to 70,000 people die due to rabies worldwide. About 56% of the total deaths in Asia is due to rabies. Human rabies is endemic in India mainly caused by dog bite. Recently in 2015, WHO declared elimination of dog mediated rabies by 2030 to which India is committed. Although rabies is fatal but it is preventable by proper management of animal bite wound. Most of the time victims of dog bite do not get proper treatment due to lack of knowledge on wound treatment. In the periphery, there is shortage of doctors, so pharmacists are practically managing peripheral health institutions. They must have adequate knowledge on animal bite management. So the present study was carried out to assess the knowledge of pharmacy students during their internship.

MATERIALS and METHODS:

The study was conducted in MKCG Medical College, Berhampur in May 2020. It was a cross sectional study using convenient sampling technique. 100 pharmacy students posted for 3 months in various outdoors of MKCG medical college were randomly selected. After taking proper verbal consent they were interviewed about management and prevention of animal bite over a predesigned and pretested questionnaire. The student had the right to withdraw at any stage of data collection and confidentiality of the participant was assured. Data was collected on a pretested questionnaire comprising of 20 questions. The questions were designed keeping in view the objectives of the study. Both open and close ended type questions were included. The questionnaire was based on epidemiological determinants of rabies and first aid measures. The last section had questions on pre and post exposure prophylaxis. The data was entered, compiled and statistical analysis was done in the Department of Community Medicine, MKCG Medical College, Berhampur using SPSS version 17 software. Statistical analysis was done by percentage and chi square test. A p value <0.05 was taken to be statistically significant.

RESULTS

The mean age of the students was 21.34 ± 1.24 which ranged from 18 to 26 years. Out of 100 students, most (62%) of the students were males. Almost all the students (88%) had heard the word "rabies" and only 12% of the students had not heard about rabies although the difference was statistically insignificant.

Majority (78%) of the students were aware that rabies is a fatal disease. 83% of the students knew that dog is the most common source of rabies. Majority (92%) of the students knew that other animals like

monkey, mongoose, cat etc transmit rabies too.

Similarly, majority of the students(79%) knew that rabies can be prevented by vaccinating dogs and the difference of knowledge between male and female was found to be statistically significant.

Regarding knowledge about first aid after animal bite, washing with soap and water was present among 72% students. 15% of the students advocated the administration of Inj.Tetanus Toxoid immediately. Application of turmeric and bitter gourd leaves was mentioned by 7% and 6% of the students respectively and there was no statistical significant difference between male and female students.

The correct schedule of ARV was known to majority of the students(79%). 74% of the students mentioned that ARV should be given as soon as possible. Only half(51%) of the students knew about RIG and only 33% of the students knew that animal bite wound should not be sutured. Correct schedule of pre exposure prophylaxis was known by only 17% of the students.

Regarding the site of vaccination, more than half of the students(64%) correctly knew that the recommended site was deltoid region.

Table 1: Gender wise distribution of students regarding their knowledge on rabies (n=100)

Variables	Male(n=62)	Female(n=38)	Total	Test of significance
Heard of the word 'Rabies'				$\chi^2 = 2.39$ $p = 0.12$
Yes	57(92%)	31(81.5%)	88	
No	5(8.0%)	7(18.4%)	12	
Rabies is a fatal disease				$\chi^2 = 0.10$ $P = 0.75$
Yes	49(79.0%)	29(76.3%)	78	
No	13(20.9%)	9(23.6)	22	
Dog bite is the most common cause of rabies				$\chi^2 = 0.00$ $p = 0.97$
Yes	47(75.8%)	36(94.7%)	83	
No	11(17.7%)	6(15.7%)	17	
Variables	Male(n=62)	Female(n=38)	Total	
Can rabies be prevented by vaccinating dogs against the disease				$\chi^2 = 4.13$ $p = 0.04$
Yes	53(85.4%)	26(68.4%)	79	
No	9(14.5%)	12(31.5%)	21	
Can other animals transmit rabies				$\chi^2 = 2.21$ $p = 0.13$
Yes	59(95.1%)	33(86.8%)	92	
No	3(4.8%)	5(13.1%)	8	

Table 2 : Gender wise distribution of students regarding knowledge on first aid after animal bite (n=100)

First aid after animal bite	Male	Female	Total	Test of significance
Washing with soap and water	45(72.5%)	27(71.0%)	72	$\chi^2 = 2.62$ $p = 0.45$
Application of turmeric	5(8%)	2(5.2%)	7	
Application of bitter gourd leaves	2(3.2%)	4(10.5%)	6	
Give TT immediately	8(13%)	7(18.4%)	15	

Table 3 : Gender wise distribution of students regarding knowledge on first aid after animal bite (n=100)

Management of animal bite wound	Male	Female	Total
Correct schedule of ARV	47 (75.8%)	26 (68.4%)	73
ARV should be given as soon as possible	45 (72.5%)	29 (76.3%)	74
Know about RIG	44 (80%)	32 (84.2%)	51
Not to do suture of animal bite wound	16 (25.8%)	17 (27.4%)	33
Correct schedule of pre exposure prophylaxis	9 (14.5%)	8 (21.0%)	17

Table 4 : Gender wise distribution of pharmacy students regarding their knowledge on the site of ARV administration(n=100)

Site of ARV administration	Male	Female	Total	Test of significance
Arm	33 (53.2%)	31 (81.5%)	64	$\chi^2 = 1.40$ $p = 0.70$
Gluteal region	13 (20.9%)	9 (23.6%)	22	
Thigh	7 (11.2%)	3 (7.8%)	10	
Any site	2 (3.2%)	2 (5.2%)	4	

DISCUSSION

The present study focussed on the knowledge of pharmacy students about animal bite and its management. As there are limited published literature on awareness about animal bite and its management among pharmacy students, we have compared our findings with studies done on medical students and nurses also.

The current study observed significant difference among male and female students knowledge about rabies prevention but difference of knowledge regarding rabies epidemiology, first aid after animal bite wound were not found statistically significant. In our study, 78% of the students knew that rabies is a fatal disease which was higher than the findings by Deepak Chopra et al where only 12% knew that rabies is 100% fatal.

83% of the students in our study opined that dog is the most common of rabies which is almost similar to

the findings of B.Chetanjit i.e 81%4.

In our study, 92% of the students knew other animals as source of infection that was better than the findings by Tiwari A et al where only 2.8% of the medical students knew about rabies transmission by animals other than dogs.

Regarding local wound management, 72% of the students in our study knew that they have to wash the wound with soap and water following animal bite which was consistent with the findings of B.Chetanjit where 68.4% of the students had correct knowledge about immediate wash of wound with soap and water.

In our study, most of the students (71%) knew the correct schedule of vaccination which was higher than the study done by B.Chetanjit et al where 65% of the students knew the correct schedule of vaccine administration.

In our study, 51% knew about Rabies immunoglobulin (RIG) which is less than the findings of Abhilasha Mali where 66.6% were aware about RIG.

33% of the students in our study knew that suturing should not be done on animal bite wound which is less than the findings of Chowdhury R et al where 67% knew that suturing should not be applied.

CONCLUSION

The current study observed that knowledge of male students was good on few aspects of rabies epidemiology than female students like preventing rabies by vaccination of dogs, transmission of rabies by animals other than dogs and correct schedule of ARV vaccination. The knowledge of female students was found to be better than male students regarding most common animal transmitting rabies as dog and arm as the recommended site of ARV administration.

RECOMMENDATION

The findings of the present study clearly indicate the fact that knowledge on various aspects of the disease and its treatment is limited in many pharmacy students. Therefore, this study recommends intermittent education and training programmes should be conducted by government for all district and periphery pharmacists. Animal bite and its management should be included in course curriculum of pharmacy students and they should be posted to ARC (Anti Rabies Clinic) batchwise to learn anti rabies treatment.

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