## **Original Research Article**

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# Assessment of awareness about rabies and the animal bite among the staff nurses in a medical institute in Lucknow

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## **ABSTRACT**

Background: People have very basic knowledge about rabies and its prevention. Health workers are usually the first ones to come in contact with a victim of animal bite. Research Question- "What is the awareness and practices about rabies and animal bite in the Health workers/paramedical staff?" Objectives of the study were 1) assessment of the awareness of staff Nurses about rabies and animal bite management; 2) to study the practices of staff nurses after an animal bite and 3) to find association of socio-demographic factors with the knowledge level.

Methods: Observational cross sectional conducted at Integral Hospital, IIMSR among 256 staff nurses (response rate 95%) between January 2017 to February 2017. Purposive Convenience Sampling method was used. Data recording by interview on a questionnaire. A scoring pattern was described.

Results: The current study observed that the knowledge and awareness of the study subjects on the rabies/ animal bite was variable, high in some aspects and low/poor in others. Majority of the subjects had poor grading of knowledge. Sex, marital status and religion were statistically significantly associated with the kowledge gradient.

Conclusions: There is a need for generating awareness about rabies and animal bite. Recommendations: There is a need for sensitization of health workers so that their knowledge can be enhanced and can be translated into proper practices.

**Keywords:** Knowledge, Awareness, Rabies, Staff nurses, Animal bite

## INTRODUCTION

Rabies is an ancient essentially fatal zoonotic disease capable of infecting all mammals and the disease is reported to be endemic in India with dog being the main reservoir.<sup>1,2</sup> An estimated 2 million bites occur annually in India, mostly by dogs and about 20,000 deaths thereby making it a country with highest fatality in Asia and the second highest in the world.<sup>3,4</sup> People have very basic knowledge or have misconception about rabies and its prevention.<sup>4,5</sup> The first aid after an animal bite is sought most commonly from health workers esp. in rural areas and they are usually the first ones to come in contact with a victim of animal bite.5 Keeping the above facts in light, the research question arises "What is the awareness and

practices about rabies and animal bite in the Health workers/paramedical staff?" Several studies in India have assessed the Knowledge, Attitude and practices of community or doctors. 4,6-9 However, there are no local studies available regarding the awareness of paramedical staff (staff nurses) on rabies and animal bite. The Staff nurses are at times a first contact link after any health related issues. Therefore, it is important to have the assessment of their knowledge and practice level. They are expected to have a higher level of knowledge of rabies and positive attitude and best standard practices regarding the animal bite management. Thus assessing their knowledge and practices regarding rabies and animal bite management and then acting accordingly can

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serve as a crucial step in reducing the incidence of this disease.<sup>5</sup>

## **Objectives**

The study was conducted with the following objectives.

- 1) Assessment of the awareness of Staff Nurses about rabies and animal bite management.
- 2) To study the practices of staff nurses after an animal bite
- 3) To find association, if any, of socio-demographic factors with the knowledge level.

## **METHODS**

## Study design

Observational cross sectional.

## Study area

Integral Hospital, IIMSR.

## Study unit

Staff nurses working in Integral Hospital.

## Sample size

All the staff nurses working in the hospital were enumerated, out of which 256 consented to be the part of the study (response rate 95%).

## Inclusion criteria

All the study units in IIMSR who consented for the study were included.

## Exclusion criteria

Non-consenting study subjects.

## Sampling

Purposive convenience sampling (all the staff nurses working in IIMSR were invited to participate in the study).

## Study Technique

Interview and recording of information on a predesigned, pre-tested questionnaire.

## **Statistics**

Descriptive statistics (percentages and proportions) and analysis of data (Fischer exact test etc.) was done using appropriate statistical software package (SPSS 20.0) (p <0.05 was considered as significant).

## Dependent variables

Knowledge and practice regarding the animal bite.

## Independent variables

Age, sex, place of residence, marital status, religion and caste.

## Study period

January 2017 to February 2017.

## Scoring

A scoring pattern was described for both the knowledge and practice section. <sup>10</sup> Every correct answer was awarded one point while no point was given for wrong response. The maximum possible score for the Knowledge was 30 and for practice aspect was 8. In this way a score was calculated for each individual in relation to the highest possible score. Further grading of the obtained score was done for both knowledge and practice (Knowledge: Good- 15-30 marks, Average- 10-14 marks, Poor- less than 10) (Practice: Good-5 or above marks, Poor-4 or below marks).

## **RESULTS**

Table 1: Socio-demographic details of the respondents.

	No.	0/0
Age	2100	, ,
15-25	174	68
25-35	80	31.3
35 and above	2	0.7
Sex		
Male	52	20
Female	204	80
Residence		
Rural	44	17
Urban	212	83
Marital Status		
Unmarried	124	48
Married	130	51
Divorcee	3	1
Religion		
Hindu	208	81
Muslim	30	12
Others	18	7
Caste		
General	86	34
OBC	152	59
SC/ST	18	7

Table 2: Knowledge and awareness of study subjects about rabies/ dog bite.

	No.	%
Animals spreading Rabies		
Dog	246	96
Cat	2	1
Monkey	22	8
Rat	2	1
Cow	6	2
Wild animals	6	2
Is Rabies Curative		
Yes	228	90
No	28	10
Rabies is fatal		
Yes	30	12
No	226	88
Availability of vaccine		
Yes	256	100
No	0	0
Site of Rabies injection		
Abdomen	20	8
Deltoid	174	68
Gluteal	50	20
Others	12	5
Mode of transmission		
Bite	256	100
Licking/ others	0	0
Period of observation in animals		
Don't know	12	5
less than 10 days	176	69
more than 10 days	26	10
not necessary	42	16

Table 3: Prevalence and practices after animal bite in the respondents.

	No.	%	
Have u ever suffered any animal bite			
Yes	18	7	
No	238	93	
If yes, by which animal			
Dog	10	56	
Monkey	8	44	
If yes, what was the site of bite			
Foot & Leg	16	89	
Arm and Hand	2	11	
What was the immediate pretreatment taken by u			
Washed wound with soap and water	4	22	
Consulted the doctor	12	67	
Applied Dettol- savlon	6	33	
Household products(chilly/turmeric powder/kerosene)		0	
Jhaad phoonk		0	
Traditional healers		0	
Tetanus Toxoid injection	2	11	
did nothing	2	11	
If yes, Have u consulted doctor/ visited health facility			
Yes	12	67	
No	4	22	
Don't remember	2	11	

If yes, then which health facility-				
Govt Health Facility	8	67		
Private Qualified Doctor	4	33		
If yes, What time did u took to reach health facility-	If yes, What time did u took to reach health facility-			
Immediately	1	8		
After Few Hours	1	8		
Next day	6	50		
After Few Days	4	34		
Did you got any anti- rabies vaccination during bite?				
Yes	6	50		
No	6	50		
If yes, then what day after bite u got first injection?				
Next day	6	100		
Reason for not consulting doctor/ visiting health facility				
Negligence and Ignorance	6	100		

Table 4: Grading of knowledge and practices of the study subjects.

Grading(Score)	Knowledge
Good (15-30)	4
Average (10-14)	16
Poor (less than 10)	236
	Practice
Good (above 4)	2
Poor (4 and below)	6

Table 5: Association of the socio-demographic factors with the knowledge of the study subjects.

	Knowledge		
Socio-Demographic Factors	Good	Average	Poor
Age			
15-25	2	14	158
25-35	2	2	76
35 and above	0	0	2
Significance	Fisher Exact Test =	5.849, p=0.287	
Sex			
Male	4	4	44
Female	0	12	192
Significance	Fisher Exact Test = 12.097, p=0.001		
Place of Residence			
Rural	2	2	40
Urban	2	14	196
Significance	Fisher Exact Test =	3.028, p=0.242	
Marital Status			
Unmarried	2	6	116
Married	2	8	120
Divorcee	0	2	0
Significance	Fisher Exact Test = 13.422, p=0.011		
Religion			
Hindu	0	10	198
Muslim	2	4	24
Others	2	2	14
Significance	Fisher Exact Test = 22.572, p=0.000		
Caste			
General	2	10	74
OBC	2	6	144
SC/ST	0	0	18
Significance	Fisher Exact Test = $6.45$ , p= $0.131$		

The current study observed that the knowledge and awareness of the study subjects on the rabies/ animal bite was high on few aspects of Rabies epidemiology like a large majority of subjects held dog as the most common animal responsible for transmitting rabies, were aware about the availability of vaccine. But knowledge regarding certain aspects of epidemiology like fatality of rabies, site of vaccination, period of observation was poor (Table 2). It was found that 7% of respondents have ever suffered an animal bite and among those victims, only 22% washed the wound with soap and water, and 67% consulted the doctor, 11% took TT vaccination, 11% did nothing while no respondent visited traditional healer/ Jhaad-Phoonk/ applied household products (Chili, Turmeric etc.) (Table 3). Only 50% of the animal bite victims got vaccinated (Table 3). Table 4 shows that the 92% of the study subjects had poor grading of knowledge. Table 5 shows that out of different sociodemographic variables, sex, marital status and religion were statistically significantly associated with the Knowledge gradient.

## DISCUSSION

The current study observed that there were certain aspects of rabies epidemiology for which the staff nurses had a very high level of knowledge but there were certain aspects where the level of knowledge was poor. The current study found that most of the respondents believed that dog was the most common transmitting animal and was in concurrence with other studies. 11-14 Majority of respondents in our study were aware of the availability of the vaccine for rabies similar to the other studies. 4,12,13,15 Knowledge regarding certain aspects of epidemiology like fatality of rabies, site of vaccination etc. was found to be low. Other global and local studies reported similar findings. 11,13-15 The probable reason for the findings could be that the rabies is popularly known as "mad dog" disease, thereby designating dog to be the only transmitting animal.<sup>11</sup> The low knowledge about the correct site of vaccination may be attributed to the inadequate IEC about the newer generation vaccine and their site of application.

In the practice aspect, the current study observed that only 7% of respondents had ever suffered animal bite. Among those ever bitten, 22% washed wound with soap and water quite similar to other studies. 12,14 None of the respondents (ever bitten) in our study visited the traditional healer/ jhaad-phoonk or applied household products (Chili, Turmeric etc.) which is in contrast to other studies findings were much higher visits to traditional healers or application of local stuff was reported. 1,14,16 This could be due to the fact that the present study was conducted in paramedical staffs who are involved in modern medicine.

The current study reported that overall grading of knowledge was poor in majority of subjects (92%) while

studies by Kishore in Dehradun and Ali et al in 2013 reported moderate level of knowledge. 5,17

Our study reported the statistically significant association between the knowledge level and sex, religion and marital status. Other studies have also reported similar significant associations. 12,13,17

## **CONCLUSION**

Paramedical staff has better knowledge regarding certain aspects of rabies but were having poor knowledge about certain other aspects. Overall level of knowledge and practices was found to be poor. Thus, there is an essential need for generating awareness about rabies and animal bite. The lack of adequate knowledge of health workers like staff nurses might translate to higher morbidity and mortality related to rabies.

## Recommendations

The study findings indicate that there is a need for sensitization of health workers so that their knowledge can be enhanced further that can be translated into proper practices for prevention and control of Rabies. Reorientation training should be given to them from time to time.

## Limitation of the study

Awareness of health workers like staff nurses cannot be compared with that of health providers (General practitioners with qualification of MBBS or more) as their qualifications are different as well as of the general community. Further the data on the practice regarding the animal bite was very low.

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Institutional Ethics Committee

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