Title: A STUDY TO ASSESS KNOWLEDGE, ATTITUDE, BEHAVIOUR AND PRACTICES REGARDING RABIES AMONG RESIDENTS RESIDING IN POST COLONIES OF GWALIOR DISTRICT, MADHYA PRADESH

Author: **Tiwari Ranjana1, Marskole Priyesh2, Bhargo Leena1, Dwivedi Vikash4, Sharma Anjali5, Gupta Abhishek6, Tripathy Anand7**

1. Professor.
2. Assistant Professor.
3. PG Scholar.
4. Professor (Statistics).
5. Student
6. Student

Department of Community Medicine, G.R. Medical College, Gwalior

Keywords Knowledge, Animal bite, Anti Rabies vaccine, Wound toilet

Abstract Rabies is an enzootic and epizootic disease of worldwide importance. In India Rabies is a zoonotic problem of considerable magnitude. Annual mortality more than 30,000 reported by national authorities.

Original Article

A Study to Assess Knowledge, Attitude, Behaviour and Practices regarding Rabies among Residents residing in Posh Colonies of Gwalior District, Madhya Pradesh (India)

Tiwari Ranjana[1], Marskole Priyesh[2], Bhargo Leena[3], Dwivedi Vikash[4], Sharma Anjali[5], Gupta Abhishek[6], Tripathi Anand[7]

ABSTRACT

Introduction:- Rabies is an enzootic & epizootic disease of worldwide importance. In India Rabies is a zoonotic problem of considerable magnitude. Annual mortality more than 30,000 reported by national authorities.

Aims and Objectives:- (1)To assess the Sociodemographic Variables of Posh Colnies of Gwalior District and to assess their awareness regarding Rabies , Type of animal, its Causative organism, Views regarding animal's behaviour, the presence of Pet, Type of Pet and its Vaccination status, the First-Aid measure adopted, Anti-Rabies Vaccine, number of doses, Cost and place of availability, the term rabies, its Case fatality, Transmission of Rabies by drinking raw milk. (2)To make recommendations based on the above findings.

Material & Methods:-Community based cross-sectional study conducted in posh colonies scattered through out the area of Gwalior district from July 2012 –November 2012 with an interview of 600 heads of families by a predesigned questionnaire in 6 posh Colonies which were identified on the basis of cost of land with or without construction to be estimated to be Rs.5000 & above.

Results:- In 600 households with a survey of total population of 2753 people above 50 years of age were 28.82 % in which 487 (81.17%) were males and 113 (18.83%)were females. 102(90.26%) had dog as their pets and 101 (89.38%) were aware regarding vaccination of pet. Though 89.33 % were aware about the term Rabies but 260 (43.33%) did not knew that it is caused by virus though 217 (36.17%) knew that it is caused by virus. 220 (36.67%) were aware about the Rabies vaccine. Still 558 (93%) were not aware of pre-exposure prophylaxis vaccination. 425 (70.83%) were not aware for any National Programme for Rabies prevention.

Conclusion:-There is definitely a gap in people's Knowledge, Attitude & Practices about dog bite & its management.

Key Word:-Knowledge, Animal bite, Anti Rabies Vaccine, Wound Toilet.

INTRODUCTION

Rabies is an enzootic & epizootic disease of worldwide importance. In India Rabies is a zoonotic problem of considerable magnitude. Annual mortality more than 30,000 reported by national authority may not be a complete picture because, since 1985 India continues to report it every year[1] It is estimated that deaths due to rabies may be ten times more than reported. Every year approximately1.1 to 1.5 million people are receiving post exposure prophylactic treatment. Although 2 million bites occur each year in India in which more than 95% of these cases are bitten by dog[2].

In China, about 5 million people are estimated to be vaccinated annually[3]. People have very basic knowledge about anti rabies treatment getting 14 injections after dog bite, as per the old concept, but not aware of the disease which could occur which they do not manage after dog bite[3].

There are many myths and false beliefs associated with wound management. These include application of oil, herbs & red chillies on wound inflicted by rabies animal. More faith in indigenous medicine that are of unproven efficacy & not washing the wound properly because of fear that it would get infected[4]. By mere washing of wounds and application of anti septic the risk of rabies will reduced by about 50%[4].

This study is undertaken to highlight the Knowledge, attitude, behaviour and practices of residents of posh colonies regarding animal bite and its management.

Professor[1], Assistant Professor[2], P.G. Scholar 2nd yr.[3], P.G. Scholar 3rd yr.[4], Students of Prefinal Year Batch 2009[5,6,7], Department of Community Medicine G.R. Medical College, Gwalior (M.P.)

Aims and Objectives

(1) To assess the Socio demographic Variables of Posh Colonies of Gwalior District and to assess their awareness regarding Rabies, Type of animal, its Causative organism, Views regarding animal's behaviour.

(2) To Assess the presence of Pet, Type of Pet and its Vaccination status.

(3) To ascertain the First-Aid measure adopted by the Community after Animal bite.

(4) To assess the awareness regarding dietary habits after animal bite, Anti-Rabies Vaccine, number of doses, Cost and place of availability of vaccine.

(5) To assess the awareness regarding the term rabies, Case fatality Rate, Transmission of Rabies by drinking raw milk of an infected animal.

(6) To make recommendations based on the above findings.

Material & Methods

Study Area: The present study was conducted in posh colonies scattered through out the area of Gwalior district.

Study Period: The study was carried out from July 2012 - November 2012.

Study Design: This is a community based cross-sectional study.

Participants: A total of 600 families were contacted in 6 posh colonies of Gwalior district. A total of 100 families from each of the above 6 colonies were taken. The total population covered was 2753. The posh Colonies were identified on the basis of value of cost of land after construction taken from Office of Sub-Registrar (Collectorate Gwalior). The cost of land with or without construction depicted was Rs. 5000 and or above in different localities. In each of the 6 colonies, 100 houses were selected. In each colony a centre was selected from which 20 houses were taken and then remaining 80 houses were taken respectively from North, South, East and West direction. From each house Head of the family was interviewed by a predesigned questionnaire regarding rabies. The Head of the household or in his/her absence any other adult member of the family was interviewed, in case the selected house was found locked on the successive visit, the adjacent household was interviewed. On an average each interview lasted for 30–45 min.

Table 1
Showing Sociodemographic Variables

S.No.	Variables	No. of respondents (n=600)	Percentage
1.	Age in Years		
	20-25	40	6.67
	26-30	38	6.33
	30-35	58	9.67
	35-40	81	13.5
	40-45	122	20.33
	45-50	88	14.67
	Above 50	173	28.83
2.	Sex		
	Males	487	81.17
	Females	113	18.83
	Type of Family		
3.	Single	3	0.5
	Nuclear	341	56.83
	Joint	256	42.67
4.	Educational Qualifications of Head of Family		
	Post Graduate	309	51.5
	Graduate	261	43.5
	Higher Secondary	23	3.83
	High School	5	0.83
	Middle School	1	0.17
	Primary School	1	0.17
5.	Occupation of Head of Family		
	Govt.Employment	298	49.67
	Private Job	153	25.50
	Business Men	149	24.83
6.	Income of Head of family (As per modified B.G. Prasad Classification)		
	More than Rs. 23220/Month	416	69.34
	Rs.11610-23220	158	26.34
	Rs.6966-11609	16	2.66
	Rs.3485-6965	10	1.66

Study Instruments: A two page Structured Questionnaire were prepared. The questions related with their awareness regarding Rabies ,Causative organism, transmission of Rabies, information regarding knowledge for National Programme for Rabies Prevention, dietary

restriction after dog bite, Prevention strategies treatment option, Cost of Anti Rabies Vaccine, doses of vaccine after dog bite & case fatality of rabies. Also, information about the practices of animal keeping if any and vaccination of pet were also enquired.

Statistical Analysis: The data was Collected, Analysed and Interpreted by using Epi Info package.

Results

In the present study a total 600 heads of families were studied and the total population covered was 2753 in the 6 posh colonies of Gwalior District.

As Shown in Table no. 1 The maximum number of heads were of the age group of above 50 years i.e. 173 (28.83%) in which 487 (81.17%) were males and 113 (18.83%) were females. The maximum number were of nuclear families 341 (56.83) .Since the area was posh the educational status was good as the number of Postgraduates were 309 (51.50) and, 298 (49.67%) in government job.416 (69.34%) respondents had income more than Rs. 23220/month.

As shown in Table No. 2 only 113 (18.83%) has pet in the family & 102 (90.27%) had dog as their pets and 101 (89.38%) were aware regarding vaccination of pet.

In Table No.3, 275 (45.83%) had seen dog bite cases and but 536 (89.33%) were aware the term of

Table 2
Showing the knowledge regarding the Presence of Pet, type of pet and awareness of Vaccination status of dog.

S.No.	Variables	No. of respondents	Percentage
1.	**Pet in Family(n=600)**		
	Present	113	18.83
	Absent	487	81.17
2.	**Type of Pet (n=113)**		
	Dog	102	90.27
	Parrot	7	6.19
	Cow	2	1.77
	Buffalo	2	1.77
3.	**Regarding awareness of Vaccination status of Dog(n=113)**		
	Present	101	89.38
	Not Present	12	9.74

Table 3
Showing the Knowledge regarding perception of term Rabies, type of animal, Causative agent, Witnessed bite and view regarding animal after the bite.

S.No.	Variables	No. of respondents (n=600)	Percentage
1.	**Awareness of term Rabies**		
	Yes	536	89.33
	No	64	10.67
2.	**Witnessed Dog bite**		
	Yes	275	45.83
	No	325	54.17
3.	**Type of animal which causes Rabies**		
	Only Dog	129	21.50
	Dog, Cat, Horse, Cow, Buffalo, Monkey,Rat (All these)	328	54.67
	Don't Know	143	23.83
4.	**About Causative Agent**		
	Virus	217	36.17
	Bacteria	81	13.50
	Fungi	14	2.33
	Protozoa	28	4.67
	Don't Know	260	43.33
5.	**Views regarding Animal after the bite**		
	Search the dog	61	10.17
	Kill the dog	51	8.50
	Observe behaviour of the dog	321	53.50
	Don't Know	167	27.83

Rabies & among them 328 (54.67%) were aware that rabies is caused not only by dog but also cat, horse, cow, buffalo, monkey & rat. 129 (21.50%) knew that only dog can cause rabies while 143 (23.83%) did not knew about it. 217 (36.17 %) knew that rabies is caused by virus but 260 (43.33%) did not knew the causative organism. 321 (53.50%) were aware that after the bite the behaviour of the dog should be observed. 167 (27.83%) did not knew anything regarding welfare of animals (to search the dog, Kill the dog and observed the behavior of dog).

In Table No. 4, 434 (72.33%) were aware that rabies is a fatal disease & has a very high mortality. 320 (53.33%) were aware regarding the availability of post exposure vaccination (i.e. vaccination after dog bite) while 254 (42.33%) were aware of symptoms of hydrophobia i.e. fear of sound of water, discomfort in swallowing liquid & unable to eat food.

Table 4
Showing the Perceptions regarding Case Fatality of disease ,Method of Rabies Prevention and Symptoms of Hydrophobia.

S.No.	Variables	No. of respondents (n=608)	Percentage
1.	Awareness response regarding Fatality		
	Yes	434	72.33
	No	63	10.50
	Don't Know	103	17.17
2.	Awareness regarding method of Rabies Prevention		
	Vaccinating the dog	230	38.33
	Use of Post-exposure Vaccination after dog bite	320	53.33
	Children should be kept away from the dog	50	8.34
3.	Showing Awareness about Symptoms of Hydrophobia		
	Fear of sound of water	147	24.50
	Discomfort in Swallowing liquid	131	21.84
	Unable to eat food	30	5.00
	All the above three are correct	254	42.33
	Don't Know	38	6.33

In Table no. 5 as shown 558 (93.00%) were not aware of Pre exposure prophylaxis of vaccine but 206 (34.33%) were aware regarding cost of vaccine, but 312 (52%) were not aware regarding the availability of getting free vaccine while 254 (42.33%) did not knew the exact number of doses of ARV to be given i.e. post exposure but 257 (42.84%) were aware that five doses of vaccine should be given.

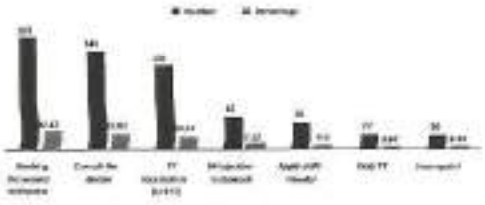
In Table No. 6, 270 (45.00%) did not knew regarding transmission of rabies by drinking raw milk & also 354 (59.00%) did not knew that vaccination should also be given to the relatives of *infected person suffering with rabies* & 328 (54.67%) did not knew about contaminated water & medication with saliva of infected animal, 493 (82.17%) were not aware of the knowledge regarding linkage between Negri bodies & Rabies.

In the Diagram No.1 Showing Bar chart regarding awareness about immediate action should be taken after animal bite 163 (27.17%) knew that the wound should be washed with water immediately, 143 (23.83%) thought that the doctor

Table 5
Showing the awareness regarding Pre exposure prophylaxis vaccine, Cost of vaccine, availability, and eligibility for getting free hospital supply of vaccine.

S.No.	Variables	No. of respondents (n=600)	Percentage
1.	Awareness regarding Pre exposure Prophylaxis vaccine		
	Yes	42	7.00
	No	558	93.00
2.	Cost of Single Vial of Rabies Vaccine		
	Rs.150-200	53	8.84
	Rs.200-250	93	15.50
	Rs.250-300	248	41.33
	Rs.300-350	206	34.33
3.	About Persons eligibility for getting free hospital supply of vaccine		
	Below Poverty Line	189	31.5
	Deendayal Card Holder	61	10.17
	Only children	38	6.33
	Don't Know	312	52.00
4.	Exact no. of doses to be used after animal bite(Post exposure)		
	One	11	1.83
	Two	6	1.00
	Three	56	9.33
	Four	16	2.67
	Five	257	42.84
	Don't Know	254	42.33

Showing Bar chart regarding awareness about immediate action to be taken after Animal Bite



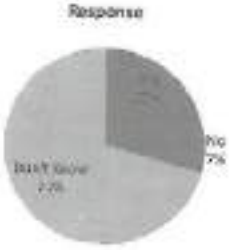
should be consulted immediately while 121 (20.17%) were aware that all the (washing with water, Consulting the doctor, receiving tetanus toxoid vaccination) three things should be done one after the other.

In Diagram No. 4 425 (70.83%) were not aware regarding the National Programme for Prevention of Rabies.

Showing Pie Diagram about the dietary habits after Animal Bite regarding taking Spicy and Oily food

Showing Pie Diagram about the Perception of respondents regarding awareness of disease "Rabies" as Preventable or No Preventable

Pie Diagram showing Awareness about National Programme for Rabies Prevention



Discussion

In a survey of Knowledge attitude and practices of dog and cat owners in Ottawa Carleton[7] stated that 95 % of respondents were aware that they were likely to get rabies from a bite or 77% from a scratch of a rabid animal. This is comparable in our study also, as in this Study also 89.33% knew about rabies but only 36.17% knew that it is caused by a virus.

Table 6
Showing the awareness regarding transmission of Rabies by drinking raw milk of infected animal, Vaccination to relatives of infected person, contaminated water and giving medication & in contact with saliva of rabid animaland linkage between Negri bodies and Rabies.

S.No.	Variables	No. of respondents (n=600)	Percentage
1.	Infected animal		
	Yes	186	31.00
	No	144	24.00
	Don't Know	270	45.00
2.	Vaccination to relatives of infected person with Rabies.		
	Yes	138	23.00
	No	108	18.00
	Don't Know	354	59.00
3.	Awareness about contaminated water and giving Medication & in contact with saliva of Rabid animal		
	Yes	194	32.33
	No	78	13.00
	Don't Know	328	54.67
4.	Awareness of knowledge regarding linkage between Negri bodies and rabies.		
	Yes	42	7.00
	No	65	10.83
	Don't Know	493	82.17

In a Knowledge attitude and practices survey[7] overall vaccine coverage rates among pets were 88% & 31% respondents were able & willing to find vaccination certificate for their pets, but in this study 89.38% people knew that pets need vaccine against rabies which is similar to this study.

In this study 27.17% used proper first aid measure i.e. washing of wound with water which was similar to study done by U. S. Singh & S.K. Choudhary which is 31.1%[8].

In this study only 6.50 % were interested in applying chilly powder or lime on the wound without washing which was also very less[7]. 1.17 % wants to use "karaha baba" water as religious custom & also 3.33% were interested in showing janampatri to astrologer. These results are also comparable to other studies also[3,4,5].

In this study 53.33% were aware of the post exposure prophylaxis prevention which is comparable to the findings of the report in CDC[1,6].

Wassay et al[9] also reported similar findings. A Multicentric study carried out on general community showed that the application of indigenous products like chillies (11.4%),

Turmeric (56%), lime (6.8%), Kerosene oil (2.3%), herbal paste (4.2%) etc. was suggested along with visit to occult medicine practitioner (1.5%) as part of the bite wound management. Findings of this study was also supported by the figures reported from Sri Lanka which showed 90% awareness about dogs being the main carrier for rabies. 72.33% knew that it can be fatal[12].

A study conducted by Chakraborty et al also supports the findings[11].

Conclusion

In the present study a total 600 heads of families were studied and the total population covered was 2753 in the 6 posh colonies of Gwalior covering the entire District.

There is definitely a gap in people Knowledge, attitude & practices about dog bite & its management. Still there is a believe in indigenous methods or either home remedies for treating animal bite wounds & still others would do nothing & go for pandit & would keep it untreated. So a thorough work out is still needed to organize awareness programme regarding management of animal bites. Institutions or NGO's should take the lead to increase awareness amongst the community regarding primary prevention of animal bites as well as health problems associated with it.

REFERENCES

1. Association for Prevention & control of Rabies in India (APCRI). Assessing burden of Rabies in India. WHO sponsored national multicentric Rabies survey, May, 2004.KIMS, Banglore: APCRI 2004:44-5.
2. Park K. Feb.2013 Park's Textbook of Preventive and Social Medicine: 22nd edition Page 251-256.
3. WHO weekly epidemiological Record Vol.74 No. 45 1999.
4. Amlan Goswami Critical situation in Rabies Post exposure prophylaxis. APCRI Journal.2008 Jan; Vol IX, issue II: 24-27.
5. S. Sehgal, D. Bhattacharya, M. Bhardwaj and V. Paul Studies on victims of bite by a dog in Delhi, Indian Journal of Public Health Vol. 38 No. 1 Jan.- March; 1994 Page 18-21.
6. A.S. Sekhon, Amarjeet Singh, Paramjeet Kaur, Sonia Gupta. Misconceptions and Myths in the management of animal bite cases. Indian Journal of Comm. Medicine Vol.27, No.1 Jan.-March; 2002 Page 9-11.
7. Ottawa Carleton. A survey of Knowledge, attitude and practices of dog and cat Owners with respect to vaccinating their pets against rabies Ontario: July 2000, Vol. 28-01 Jan. 2002.
8. U. S. Singh, S. K. Choudhary. Knowledge, attitude, behaviour and Practice Study on dog bite and its management in the context of Prevention of Rabies in a Rural Community of Gujarat. Indian Journal of Community Medicine Vol. 30 No.3 July-Sept. 2005.
9. Wasay M, Malik A, Fahim A et al. Knowledge and attitude about Tetanus and Rabies: A population based survey from Karachi, Pakistan; J Pak Medical Association Vol.62 (4): 378-82.
10. Ichhpujani R.L., Mala Chhabra, Veena Mittal, Bhattacharya D. Knowledge, attitude and practices about animal bite and rabies in general Community Indian Journal of Communicable Diseases 2006 Oct.; Vol. 38:355-362.
11. Chakraborty P, Basher A. A study to Assess the awareness of common animal and insect bites among the parents. Oxford Journal Medicine Epidemiologic Reviews 2002; Vol. 27: 21-35.
12. Matibag G.C., Kamigaki T, Kumarasiri P.V.Wijewardana T.G., Kalupahana A. W., Dissanayake D.R. et al. Knowledge, attitude and practices Survey of Rabies in a Community in SriLanka: Environ Health Preventive Medicine 2007;12: 84-90.