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ORIGINAL RESEARCH

Assessment of animal bite cases reporting in a Tertiary Care Hospitaland their management Practices- A Cross sectional Study

[1]Dr. Pragya Sinha, [2]Dr. Puja, [3]Dr. Shikha, [4]Dr. Ajay Krishna

[1,2,4]Tutor, [4]Professor & Head, [3]Department of Community Medicine, PMCH, Patna, Bihar, India

Corresponding author
Dr. Shikha
Tutor, Department of Community Medicine, PMCH, Patna, Bihar, India

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ABSTRACT

Background:A zoonosis is an infection or infectious disease found in animals that can be naturally transmitted from vertebrate animals to humans. The present study was conducted to assess animal bite cases and their management.**Materials & Methods:**86 animal bite cases of both genders were selected. Family features (such as residency and type), management style, common misconceptions, and the need for immediate treatment etc. was recorded.**Results:**Out of 86 cases, 50 were males and 36 were females. 38 were from rural and 48 from urban area. The difference was significant (P< 0.05). Type of animals were dogs in 42 cases, cat in 18, monkey in 20 and others (bear, jackal, wild pig, rat, ox)in 16 cases. Site was head and neck in 15, upper and lower extremity in 45 and abdomen, back and other sites in 26 cases. Time of reporting was <24 hours in 37, 24-48 hours in 20 and >48 hours in 29 cases. House managementwas done with chilli in 21, oil in 14, turmeric powder in 6, soap and water in 23, water in 14 and no management in 8 cases. Treatment facility was private hospital in 39 and government hospital in 47 cases. The difference was significant (P< 0.05).**Conclusion:** type of animals were dogs, cat, monkey and others (bear, jackal, wild pig, rat, ox). Site was head and neck, upper and lower extremity and abdomen, back and other sites. House management was chili, oil, turmeric powder, soap and water.Public health education initiatives should be implemented within communities to raise awareness about the risks associated with animal bites and to promote avoidance of interactions with stray dogs.

Keywords: animal, dogs, soap

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INTRODUCTION

A zoonosis is an infection or infectious disease found in animals that can be naturally transmitted from vertebrate animals to humans.[1] Numerous zoonotic diseases are fatal to humans, such as rabies and the plague.[2] According to WHO survey conducted in 2002, the annual incidence of animal bite is 1.7% and the bites were more common in children (2.5%) and males (68%). In India, around 98% of animal bites are due to dogs and cats.[3] Bites from animals such as monkeys, horses, donkeys, and rats occur with a prevalence of approximately 1%. The remaining animal bites are attributed to those of squirrels, bats, and mongooses.

Similarly, dog bites account for the majority of deaths caused by animal bites (approximately 97%). Animal bites are not included in notifications or reports within the routine surveillance system.[4]

The WHO estimates that each year, 23,000 to 25,000 individuals in the SEA Region die from rabies. This accounts for around 45% of human fatalities caused by rabies globally.

An estimated 25,000 rabies-related deaths occur in SEAR, with India accounting for the majority (approximately 19,000) and Bangladesh for about 2,000.[5] Over 2.5 million individuals receive post-exposure prophylaxis after rabid or potentially rabid animal bites, leading to significant morbidity and economic impact. Saliva from infected animals transmits the disease to humans through licks on broken skin or mucous membranes, as well as bites and scratches.[6]The present study was conducted to assess animal bite cases and their management practices.

MATERIALS & METHODS

The study was carried out on 86animal bite cases of both genders reporting to immunization clinic of

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PMCH Patna, Bihar, India. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Family features (such as residency and type), management style, common misconceptions, and the need for immediate treatment etc. was recorded. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Socio demographic data

Parameters	Variables	Number	P value
Gender	Male	50	0.02
	Female	36	
Residence	Rural	38	0.05
	Urban	48	

Table I shows that out of 86 cases, 50 were males and 36 were females. 38 were from rural and 48 from urban area. The difference was significant (P< 0.05).

Table II Assessment of parameters

Parameters	Variables	Number	P value
Type of animals	Dog	42	0.05
	Cat	18	
	Monkey	20	
	Others (bear, jackal, wild pig, rat, ox)	16	
Site	Head and neck	15	0.01
	Upper and lower extremity	45	
	Abdomen, back and other sites	26	
Time of reporting	<24 hours	37	0.05
	24-48 hours	20	
	>48 hours	29	
House management	Chili	21	0.17
	Oil	14	
	Turmeric powder	6	
	Soap and water	23	
	Water	14	
	No management	8	
Treatment facility	Private hospital	39	0.25
	Government hospital	47	

Table II, graph I shows that type of animals were dogs in 42 cases, cat in 18, monkey in 20 and others (bear, jackal, wild pig, rat, ox) in 16 cases. Site was head and neck in 15, upper and lower extremity in 45 and abdomen, back and other sites in 26 cases. Time of reporting was <24 hours in 37, 24-48 hours in 20 and >48 hours in 29 cases. House management was done with chili in 21, oil in 14, turmeric powder in 6, soap and water in 23, water in 14 and no management in 8 cases.

It was observed that a maximum cases i.e 47 (54.65%) of animal bite cases were reported to the tertiary care center, followed by 39 cases(45.35%) who reported to a private hospital. The difference was significant (P< 0.05).

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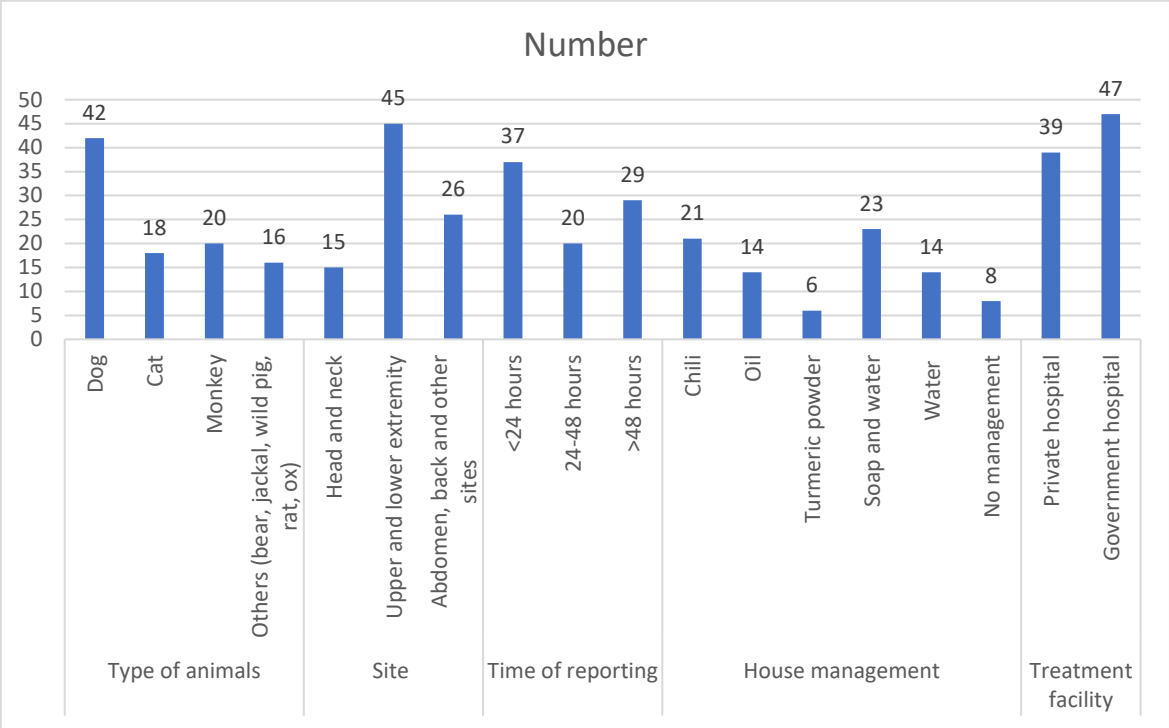
Graph I Assessment of parameters



DISCUSSION

In urban areas around the globe, animal bites—especially those from dogs and cats—pose a notable public health issue.[7] These events present dangers not just because of the possibility of bodily harm in the moment, but also because they could facilitate the spread of zoonotic diseases, rabies being the most prominent example.[8] To reduce these risks and guarantee public safety, effective management and prevention strategies are crucial.To comprehend the epidemiological profile of animal bites, it is necessary to examine the incidence rate, demographic distribution, and outcomes of these cases.[9] The probability of animal bites can be affected by factors such as age, gender, socioeconomic status, and geographic location within urban areas. Furthermore, it is essential to take into account the species of animals involved, the character of the interactions that result in bites, and seasonal fluctuations.[10]The present study was conducted to assess animal bite cases and their management.

We found that out of 86 cases, 50 were males and 36 were females. 38 were from rural and 48 from urban area. PattanayakS et al[11] assessed the prevalence and pattern of animal bites. It was found that during last one year, out of 6242 animal bite cases, majority of them were bitten by dogs 4785 (76.66%). It was found that 5617 (90%) are category III bite, 548 (8.78%) are category II bites, 77 (1.23%) are category I bite. Parts of body bitten by animals were limbs 5828 (93.37%), face 312 (5%), back 52 (0.83%). Out of 6242 cases, 348 (5.5%) cases were admitted in General Surgery Department.

We found that type of animals were dogs in 42 cases, cat in 18, monkey in 20 and others (bear, jackal, wild pig, rat, ox)in 16 cases. Site was head and neck in 15, upper and lower extremityin 45 and abdomen, back and other sites in 26 cases. Time of reporting was <24 hours in 37, 24-48 hours in 20 and >48 hours in 29 cases. House managementwas chili in 21, oil in 14, turmeric powder in 6, soap and water in 23, water in 14 and no management in 8 cases. Treatment facility was private hospital in 39 and government hospital in 47 cases. Patil et al[12]determined the scope of the issue and the epidemiological features of animal bite incidents. A purposive sampling technique was used, and around 400 animal bite cases were recorded in one year. Out of 1503 male cases, around 255 were dog bite cases (50.6%), whereas out of 1302 females, around 145 were dog bite cases (48%). The majority (35%) belonged to the age group of 11 to 20 years for both males and females. The mean age of the cases was 19.4 ± 3.4 years. The study found a male preponderance (64%), with females constituting 36%. The right lower limb (49.5%), left lower limb (39%), and upper limb were the most frequently bitten sites. Fifty-one percent of the cases fell into Category II. According to local data, the most popular home management practices were ghee oil and cold treatments. Although Category III is the most severe bite, only 35% had taken the anti-rabies vaccine (ARV), and 8.75% had received rabies immunoglobulin. Patil SP et al studied prevailing pre-treatment practices and some epidemiological factors associated with dog bite among study population. A cross-sectional study was carried out by interviewing 357 subjects who received anti-rabies immunization

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injection at outpatient department. Dog bite was most common among males (73.94%) and majority (57.70%) were observed in the age group of 16-45 years. Maximum cases were of Grade-III (61.6%) bite with common site was lower limbs (82.9%) and 58.26% belonged to poor socioeconomic class. Immediate pre-treatment of wound was practiced by 173(48.45%) subjects before visiting health care personnel, while 184 (52.54%) had not used any method. 86 (24.08%) had washed the wound with soap, water &/or disinfectant. Majority 87(24.3%) applied local remedies like lime 33(37.93%) followed by turmeric 21 (24.13%) and chilly powder (16.09%). The shortcoming of the study is small sample size.

CONCLUSION

Authors found that type of animals were dogs, cat, monkey and others (bear, jackal, wild pig, rat, ox). Site was head and neck, upper and lower extremity and abdomen, back and other sites. House managementwas chili, oil, turmeric powder, soap and water. Public health education initiatives should be implemented within communities to raise awareness about the risks associated with animal bites and to promote avoidance of interactions with stray dogs.

REFERENCES

1. Shah V, Bala DV, Thakker J, Dalal A, Shah U, Chauhan S, et al. Epidemiological determinants of animal bite cases attending the anti-rabies clinic at VS General Hospital, Ahmedabad. J Ind Assoc Preventive Social Med. 2012;3(1):66-8.
2. Rambhau D, Dilip N. Profile of animal bite cases in Nanded district of Maharashtra State, India. Ind J Fundamental Applied Life Sci. 2011;1(3):188-93.
3. Khokhar A, Meena GS, Mehara M. Profile of dog bite cases attending MCD (Municipal Corporation Delhi) Dispensary at Alipur, Delhi. Ind J Community Med. 2003;4:157-60.
4. Sheetal V, Kinnari G, Gneyaa B, Hemant T. Animal bite management practices: study at three Municipal Corporation Hospitals of Ahmedabad. Nat J Comm Med. 2010;1(2):75-8.
5. Bedi R, Bedi DK, Tankha A, Choudhary V, Matoria RS. Profile of animal bite cases attending anti rabies clinic of J.L.N. Medical College and Hospital, Ajmer. APCRI. 2006;8(1):28-30.
6. Gogtay NJ, Nagpal A, Mallad A, Patel K, Stimpson SJ, Thatte UM. Demographics of animal bite victims & management practices in a tertiary care institute in Mumbai, Maharashtra, India. Ind J Med Res. 2014:459-62.
7. Umrigar P, Parmar GB, Patel PB, Bansal RK. Epidemiology of animal bite cases attending municipal tertiary care centres in Surat city: A cross- sectional study. Nat J Community Med. 2013;4(1):153-7.
8. Sudarshan MK, Mahindra BJ, Madhusudana SN, Narayana ADH, Rahman A, Rao NS, et al. An epidemiological study of animal bites in India: Results of a WHO sponsored national multi-centric rabies survey. J Communicable Dis. 2006;38(1):32- 9.
9. Ghannad SM, Roshanaei G, Rostampour F, Fallahi A. An Epidemiologic study of animal bites in Ilam province, Iran. Arch Iran Med. 2012;15(6):356-60.
10. Kassiri H, Kassiri A, Mosavic R, Jashirehc A, Lotfia M. Prevalence rate and epidemiological determinants of animal bite in Ahvaz County, Khuzestan Province, Southwestern Iran. J Acute Dis. 2014;3:51-5.
11. Pattanayak S, Malla TK, Bara BK, Behera MK. Epidemiological study of animal bite victims and admission in general surgery department, in Southern Odisha: A cross- sectional institutional study. Int Surg J 2017;4:3470-3.
12. Patil SP, Singh VS, Chavan SS. Study of pretreatment practices and some of the epidemiological factors associated among dog bite cases attending outpatient department in tertiary care hospital. Int J Health Sci Res. 2014;4(4):34-9.

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