Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20161376

A study to assess delays in reporting time and completion of treatment at anti rabies clinic, JA group of hospitals, Gwalior, Madhya Pradesh, India

Vikash Dwivedi¹, Manohar Bhatia²*, Khushboo Juneja²

Received: 29 February 2016 Accepted: 06 April 2016

*Correspondence: Dr. Manohar Bhatia,

E-mail: bhatiyamanohar@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Rabies in humans is 100% preventable through prompt appropriate medical care. 20,000 people are estimated to die every year from rabies in India primarily because of stray dogs. Rabies continues to be a public health problem in India as there is no organised system of surveillance of rabies cases and there is hence a lack of reliable data. The present study was undertaken to assess reporting time to medical facility, timely completion of vaccination and use of indigenous treatment.

Methods: It was a cross sectional study conducted for the duration of six months in anti-rabies clinic of Madhav dispensary at J.A. group of hospitals Gwalior. All newly registered patients who consented to participate were included in the study. The sample size calculated was 1200 and the tool for collecting information was a semi structured questionnaire.

Results: 46.09% cases reported within >24-72 hours, 21.40% within >72 hours to 07 days while 18.17% cases reported to medical facility after seven days. Financial problem was the cause of delay in maximum (35.83%) number of cases. 62.95% (712) cases delayed the completion of treatment. 51.50% took one or more type of indigenous/home treatment.

Conclusion: Health education about consequences of animal bite and their appropriate vaccination including wound management should be promoted through media and other channels. Indigenous methods of treatment should be discouraged.

Keywords: Animal bite, Anti rabies vaccine, Delayed reporting, Indigenous treatment

INTRODUCTION

Rabies is an infectious and contagious viral disease of the central nervous system that causes acute encephalitis (inflammation of the brain) in warm-blooded animals. The term rabies is derived from the Latin rabies, 'madness'. This, in turn, may be related to the Sanskrit rabhas, 'to do violence'. The disease is zoonotic, meaning it can be transmitted from one species to another, such as from dogs to humans, commonly by a bite from an

infected animal. For a human, rabies is almost invariably fatal if post exposure prophylaxis is not administered prior to the onset of severe symptoms.²

Rabies in humans is 100% preventable through prompt appropriate medical care. Most industrialized nations have effectively controlled Rabies. Even though the best methods for the prevention of Rabies are available in the world, the penetration of awareness regarding the use of these is still lacking and still more than 55,000 people,

¹District Hospital, Chhindwara, Madhya Pradesh, India

²Department of PSM/Community Medicine, SHKM, GMC, Mewat, Haryana, India

mostly in Africa and Asia, die from rabies every year - a rate of one person every ten minutes.³

Rabies virus infects the central nervous system. The virus travels to the brain by following the peripheral nerves. The incubation period of the disease is usually a few months in humans, depending on the distance the virus must travel to reach the central nervous system.⁴

Once the rabies virus reaches the central nervous system and symptoms begin to show, the infection is virtually untreatable and usually fatal within days. The early symptoms of rabies in people are similar to that of many other illnesses like malaise, headache and fever and in the end stage, patient may experience periods of mania and lethargy, eventually leading to coma. Death usually occurs within days of the onset of these symptoms. The primary cause of death in Rabies is usually respiratory insufficiency.⁵

India has approximately 25 million dogs, with an estimated dog-man ratio of 1:36.⁶ The dogs fall into 4 broad categories: pets (restricted and supervised), family dogs (partially restricted, wholly dependent), community dogs (unrestricted, partially dependent), and feral dogs (unrestricted, independent). Most dogs in India, perhaps 80%, would fall into the last three categories.⁷

Rabies in India has been a disease of low public health priority both in the medical and veterinary sectors. The disease is mostly affecting poor, who are voiceless and disorganized and the dog, mostly responsible for the diseases is not an animal of economic importance. Beside, dog is greatly loved, protected by vast majority of people based on compassion and non-violence and more so because of its proven unstinted loyalty to its master.

In India, it is envisioned by the national leaders that by 2020 the country would be transformed to a developed nation. Despite all these, both sylvatic and urban rabies has been present in India since ancient times. Rabies is present in all over the country and cases occur throughout the year. There is no organized system of surveillance of rabies cases and there is hence a lack of reliable data. Thus the present study was undertaken to assess the behaviour of patients in terms of reporting time to medical facility, timely completion of vaccination and use of indigenous treatment.

METHODS

The present study was conducted in Anti-rabies clinic of Madhav Dispensary at J.A. group of hospitals Gwalior (M.P.) which is the teaching hospital of G.R. Medical College, Gwalior. The centre derives its patients not only from Gwalior district but also surrounding districts of Madhya Pradesh, as well as from neighboring states like Uttar Pradesh and Rajasthan. It was a cross sectional study conducted for the duration of six months from July 2011 to December 2011. All newly registered patients

were interviewed with the help of a questionnaire on their first visit. Study population included all the new patients attending anti rabies clinic at madhav dispensary during the study period. The anti-rabies clinic remains closed on all Sunday's and government holidays.

The permission to conduct the study was taken from the Ethical Committee, G.R. Medical College, Gwalior. Verbal consent was obtained from every patient after explaining the purpose, nature and procedure of study and they were assured that confidentiality would be strictly maintained. The option of withdrawal from the study was always available. All newly registered patients attending anti rabies clinic who consented to participate were included in the study. The patients who were registered before the start of study period were excluded from study.

An average of 10-15 new patients of animal bite are registered at the anti-rabies clinic every day. After adjusting Sundays and government holidays, there are 23-24 working days every month. For the purpose of our study, a lower value of 10 patients per day was taken for 20 days a month taking monthly total to 200 patients. Since the study was conducted for six months the sample size calculated was (6x200) 1200.

A semi structured questionnaire was drafted to collect information about socio demographic variables, biting animal, site of bite and number of wounds, duration of reporting and cause of delayed reporting if any, history of any primary/home treatment etc. Information regarding treatment provided to the patients was also noted in the proforma. The data collected were entered in the excel sheet every day and were finally analyzed using appropriate statistical test.

RESULTS

In our study 73.91% (887) cases had class II bite while 20.33% (244) cases had class III bite while only 05.76% (69) cases had class I bite. World Health Organization (WHO) recommends immediate medical attention after animal bite. For the purpose of our study 24 hour period was kept as cut off point and reporting to any doctor or hospital beyond this was recorded as delayed reporting. Only 14.33% (171) cases reported to a medical facility within 24hrs of animal bite. 46.09% (553) cases reported within >24-72 hours, 21.40% (257) within >72 hours to 07 days while 18.17% (218) cases reported to medical facility after seven days (Table 1).

When inquired about cause of delay in reporting to the hospital after animal bite, 35.83% (344) cases said financial problem as the cause of delay while 18.65% (179) cases said that they had to attend some marriage or family function in another town/village. 17.92% (172) cases said that long distance from hospital was the cause of delay while 15.00% (144) cases said that unavailability of leave from work was the reason for delay in reporting

to the hospital. 12.60% (121) cases delayed the visit as they were unaware about consequences of animal bite and didn't considered animal bite serious enough to visit a doctor but visited the hospital after being forced/suggested by some friend or relative (Table 2).

Table 1: Initial reporting time (in hours) at medical facility after animal bite.

S. No.	Time of reporting (in hours)	% of cases (n)
1	Within 24 hours	14.33 (171)
2	>24-72 hours	46.09 (553)
3	>72 hours -7 days	21.41 (257)
4	After 07 Days	18.17 (218)
Total		100 (1200)

Table No.2: Cause of delay in reporting (n=1029)*.

S. No.	Cause	% of cases (n)
1.	Financial	35.83 (344)
2.	To attend some Family/Social gathering	18.65 (179)
3.	Distance From Hospital	17.92 (172)
4.	Negligence/Unaware about consequences of animal bite	12.60 (121)
5.	Work pressure (unavailability of leave)	15.00 (144)
Total		100 (1029)*

^{*171} cases reported to medical facility within 24hrs.

Table 3: Completion of treatment on time (n=1131).

S. No.	Status	% of Cases (n)
1.	Completed treatment on Time	37.05 (419)
2.	Delayed Completion of treatment	62.95 (712)
Total		100 (1131)

Table 4: Causes of delayed completion of vaccination (n=712).

S.	Causes of delayed completion	% of cases
No.	of treatment	(n)
1.	Financial Problem	39.04 (278)
2.	Fever/unwell on the day of injection	28.79 (205)
3.	To attend some family/social gathering	15.87 (113)
4.	Work pressure (unavailability of leave)	16.29 (116)
Total		100 (712)

As per WHO standard intramuscular regimen, five doses of anti-rabies vaccine are to be administered to all category II and III animal bite cases at day 0, 3, 7, 14 and

28. Category III cases additionally require anti rabies immunoglobulin as well.² In our study, out of 1131 category II and III cases, only 37.05% (419) cases completed treatment on time as per the recommended schedule while 62.95% (712) cases delayed the completion of treatment due to various reasons (Table 3). Of the 712 cases who delayed the treatment, financial Problem was the most important reason cited by 39.04% (278) cases. Other important reasons were illness on the day of injection in 28.79% (205) cases, unavailability of leave by 16.29% (116) cases and 15.87% (113) cases had gone out to attend some family/social gathering or to spend vacations at nannie's home (Table 4).

Table 5: Distribution of indigenous treatment taken (n=618).

S. No.	Type of treatment	% of cases (n=618)*
1.	Magic-O-Religious (Faith Healing, Karah Walebaba Ka Pani)	70.39 (435)
2.	Home Treatment (Mirchi/Chuna/ Turmaric)	56.96 (352)
3.	Consulting Traditional Healer (Homeopathy Ayurveda etc.)	15.69 (97)
4.	Others	09.06 (56)

^{*} Multiple answers

Various indigenous treatments are prevalent in our community. In the present study, 618 cases (51.50%) took one or more type of indigenous/home treatment. In our study, 70.39% (435) cases went for Magic-O-Religious treatment (Karah Walebaba Ka Pani), 56.96% (352) cases applied Mirchi /Chuna /Turmaric over the bite wound, 15.69% (97) cases consulted Homeopathy, Ayurveda etc and 09.06% (56) cases received some other types of indigenous treatment (Table 5).

DISCUSSION

A study conducted in muradnagar, India reported that 72% cases turned up to CHC for the treatment within 24 h after the incident. Another study conducted in Kolkata reported that maximum number of study participants reported to health center within 24 to 48 hours and very few cases within 24 hours after bite. Late reported cases, especially after 5 days, constituted by younger children or illiterate elderly people were forcefully brought to the hospital by their family members or caregivers. In our study, maximum cases reported within 24-72 hrs (46.09%) and only 14.33% cases reported to a medical facility within 24hrs of animal bite. In our study financial problem was the most important cause of delay in reporting.

A study conducted in Mumbai reported that a total of 318 patients did not complete the full Essen regime of the vaccine. ¹¹ In our study also only 37.05% cases completed the treatment in time.

A study conducted in Muradnagar, India reported that 80% cases had applied chilly and oil paste on the wound before coming to the hospital. Another study conducted in Jimma town of Ethiopia reported that 91.10% agreed that medical evaluation should be sought as soon as possible and 75.00% also believed that traditional healers could cure rabies. A study conducted in central India reported that 55.2% had taken self-medication/home remedies immediately after animal bite while 34% victims applied Haldi /chuna /red chilli powder/pan leaf /milk/herbal medication on animal bite site. 13

The use of local applications to wounds was common (36.8%). The application of herbs (5.7%) and red chilli powder (5.2%) were the most commonly used remedies. The indigenous treatment was also popular (45.3%) and more so in the rural areas (47.9%) and magico-religious (faith healing, witchcraft, etc.) practices were the most common (15.7%). (14) In our study, over 50% cases took indigenious treatment of which 70.39% cases went for Magic-O-Religious treatment (Karah Walebaba Ka Pani) and 56.96% cases applied Mirchi/Chuna/Turmaric over the bite wound.

CONCLUSION

Results of this study reflect the fact that animal bite and in particular dog bites put unnecessary monetary burden and physical suffering on people; Control of stray dog population, awareness towards proper and timely management of animal bites, regular and repeated vaccination of pets and their owners are certain measures which authorities should focus on. Health education about consequences of animal bite and their appropriate vaccination including wound management should be promoted through media and other channels. Simultaneously indigenous methods of treatment should be discouraged and those practicing it should be strictly dealt with law.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- Drew WL. Chapter 41: Rabies. Ryan KJ, Ray CG. Sherris Medical Microbiology. 4th ed. McGraw Hill; 2004:597-600.
- K Park. Text book of Preventive and Social Medicine. 21st ed. Jabalpur: M/s Banarsidas Bhanot publication; 201:250-4.
- 3. Adamson PB (1977). The spread of rabies into Europe and the probable origin of this disease in antiquity. J R Asiat Soc GB Irel. 1977;2(2):140-4.

- 4. Cotran RS, Kumar V, Fausto N. Robbins and Cotran Pathologic Basis of Disease. 7th ed. St. Louis: Elsevier/Saunders; 2005:1375-76.
- Signs and symptoms and cause of death in Rabies. Centre for disease control and prevention. Available at http://www.cdc.gov/rabies/prevention/people.html
- 6. Sudarshan MK. Assessing burden of rabies in India. WHO sponsored national multi-centric rabies survey. Assoc Prev Control Rabies India J. 2004:6:44-5.

[Last Accessed 30/01/2016]

- 7. Chaudhuri S. Rabies prevention and dog population management. India's official dog control policy in context of WHO guidelines. Ecollage, 2005.
- 8. Ichhpujani.R.L. Rabies in humans in India. 4th international symposium on rabies control in Asia. Symposium proceeding Merieux Foundation and WHO Ed. Betty Dodet and F.X.Meslin. Hanoi, Vietnam, John Libbey, Eurotex, London.2001.
- Jain P, Jain G. Study of general awareness, attitude, behavior, and practice study on dog bites and its management in the context of prevention of rabies among the victims of dog bite attending the OPD Services of CHC muradnagar. J Family Med Prim Care. 2014; 3(4):355-8.
- 10. Ghosh A, Pal R. Profile of Dog Bite Cases in an Urban Area of Kolkata, India. Natl J Community Med. 2014;5(3):321-4.
- 11. Gogtay NJ, Nagpal A, Mallad A, Patel K, Stimpson SJ, Belur A, Thatte UM. Demographics of animal bite victims & management practices in a tertiary care institute in Mumbai, Maharashtra, India. Indian J Med Res. 2014;139(3):459-62.
- 12. Kabeta T, Deresa B, Tigre W, Ward MP, Mor SM. Knowledge, attitudes and practices of animal bite victims attending an anti-rabies health center in jimma town, Ethiopia. PLoS Negl Trop Dis. 2015; 9(6):e0003867. Available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC448 2645/ (Accessed on 24/01/16).
- 13. Trivedi R, Kumar S, Saxena M, Niranjan A, Kumar M. Epidemiological trends and practices of animal bite victims presenting to the OPD, district & medical college hospital, India. Int J Health Sci Res. 2015;5(12):14-20.
- Assessing burden of Rabies in India. WHO sponsored National Multi-Centric Rabies Survey 2003. APCRI. 2004:29-30.

Cite this article as: Dwivedi V, Bhatia M, Juneja K. A study to assess delays in reporting time and completion of treatment at anti rabies clinic, JA group of hospitals, Gwalior, Madhya Pradesh, India. Int J Community Med Public Health 2016;3:1157-60.