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Research Article

A cross sectional study of sociodemographic profile and treatment seeking behavior of cases of animal bite attending anti Rabies clinic at tertiary health care center in central India

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ABSTRACT

Background: Rabies is 100% fatal zoonotic disease which can be prevented by appropriate anti rabies post exposure prophylaxis. The incidence of animal bite is managed poorly due to ignorance and rampant myths & misconceptions. It is discovered that a vital time period is lost in taking medical aid as people due to ignorance opt for traditional medications the authenticity of which is not completely established. Aims & objectives: 1) To study the social, demographic characteristics of victims of animal bites. 2) To study the treatment seeking behavior of persons and to find their correlations.
Methods: An observational cross-sectional study. The respondents were selected amongst new cases of animal bites attending Anti Rabies clinic of Gandhi medical college Bhopal M.P. India for 3 months using pretested questionnaire. Data was analyzed & interpreted using percentages and tests of significance using Epi info 7.
Results: Out of total 315 cases of animal bite nearly 38.75% were below 15 years of age. In total, 82.5% cases were bitten by dogs. The majority of cases (73%) had a category III bite, only 45% consulted within 24 hours of the bite. Nearly 9% did not wash the wound with soap & water instead applied home remedies or opted for traditional or non-allopathic treatment. A statistically significant (P <0.0001) association was found between educational status & knowledge of fatality due to rabies.
Conclusions: Rising level of literacy enhances knowledge about the fatality of rabies.

Keywords: Zoonotic disease, Cross sectional, Treatment seeking behavior, Test of significance

INTRODUCTION

Rabies is a zoonotic viral disease that causes acute encephalitis in warm-blooded animals.[1] It is usually caused by a bite from an infected animal. For a human, rabies being almost invariably fatal if post exposure prophylaxis are not administered prior to the onset of severe symptoms. Rabies causes about 55,000 fatalities per year worldwide.[2] 95% of human deaths due to rabies occur in Asia and Africa.[3] Roughly 97% of human rabies cases results from dog bites.[4] Between 30% and 60% of the victims of dog bites are children under the age of 15 in countries where rabies is endemic.[5]

In India every year, more than 20000 people die due to Rabies. It accounts for nearly 36% of the total deaths due to Rabies world-wide this account for of which three-quarters occur in rural areas.[5] This is due to close proximity of inhabitants with animals. It is noted that victims from rural areas are ignorant about the case fatality of rabies. They have limited access to health facilities for appropriate management of cases of animal

bite. They greatly rely on the traditional system of medicine to cure a case of animal bite, which is believed to be the cause of delay in treatment. Rabies is the disease which has many misconceptions. The general population is usually unaware of its fatality. Hence, many victims have casual attitude about it. This is usually caused of delay in seeking medical aid for animal bites. In this study the social, demographic profile of attendees is studied. This study also aims to understand treatment seeking behavior of victims of animal bites and to find correlates of social demographic factors in managing animal bite.

METHODS

Due authorization was taken from college ethics a committee to lead this study at Anti Rabies clinic at Gandhi medical college Bhopal (M.P.) India. A questionnaire aimed at eliciting information about social, demographic profile & treatment seeking behavior was designed for data collection. The questionnaire was subjected to pilot testing during July 2013. Following this all new animal bite cases during September 2013 to November 2013, with no prior history immunization with ARV were included in the survey.

Patients were interviewed using pretested questionnaire. In total, 315 (P = 25%, confidence interval of 95%, allowable error = 5% + 10% non-responders) patients were selected for interview. All the patients were informed about the study & only those patients who consented were enrolled in the study. The information collected was compiled & analyzed using MS-Excel & Epi info-7.

RESULTS

It was observed that 38.73% respondents were <15 years of age, 76.19% patients were males, 53.07% were married and 54.42% respondents earned <2$/day. 65.07% respondents were from urban areas of Bhopal (Table 1).

It was observed that maximum number of animal bites were by dogs 82.85% (261/315), 7.61% (24/315) by cats, 2.53% (8/315) by humans & 6.67% (21/315) by other animals. Nearly 50.15% (52.06%) respondents suffered a bite from stray animals, 39.36% (124/315) were attacked by domestic animals & 4.76% (15/315) by wild animals. In general 78.41% (247/315) instances the bite was unprovoked, 12.06% (38/315) reported of stepping on the animal accidentally & 9.52% (30/315) bites were caused by deliberate irritating the animal. In total, 73.96% (233/297) received a bite from un-immunized animal, 21.54% (64/297) suffered a bite from previously immunized animal. Nearly 68.01% (202/297) respondents confirmed that the animal was traceable & 31.98% (95/297) could not identify the animal. The most common site was lower limb in 62.59% (197/315) cases, in the general right side of the body is most frequently involved in 53.65% (169/315) cases.

In total, 70.74% (222/315) respondents suffered multiple bites/scratches and 29.52% (93/315) reported single bite/scratches. Most of the respondents suffered from category III bite i.e. 73.01 (230/315) followed by category II & I in 20.95% (66/315) & 6.03% (19/315) respectively.

Table 1: Social demographic profile of respondents.

	N-315	%
Age (years)		
<15	122	38.73
15-30	85	26.98
30-45	31	9.84
45-60	47	14.92
>60	30	9.52
Sex		
Male	240	76.19
Female	75	23.80
Income		
<2$/day	172	54.60
>2$/day	143	45.39
Place of residence		
Rural	110	34.92
Urban	205	65.07
Occupation		
Unemployed	67	21.26
Service	70	22.22
Business + self employed	64	20.31
Students	102	32.38
Animal handlers	3	0.95
Others	9	2.85

Nearly 45.07% (142/315) consulted for anti-rabies treatment in 24 hours, 23.17% (73/315) consulted in 24-48 hours, 14.60 (46/315) consulted after 48 hours of the animal bite. Whereas 17.14% (54/315) did not remember the time of the bite.

Out of 315 53.01% (167/315) respondents treated wound by washing with soap & water & at home in, 30.15% (95/315) used home remedy for & 8.88% (28/315) used non allopathic medicine for managing animal bite & 7.93% (25/315) consulted at the hospital right away.

Duration of initiation of treatment following animal bite is not associated significantly with other social demographic factors (Table 2). A statistically significant (Chi sq-53.6, df-9, P <0.0001) finding was found between educational status & knowledge of fatality due to rabies. As only 5.71% illiterate and 60% literate respondents were aware that rabies was 100% fatal disease (Table 3).

During the study, we found 3 patients who presented with aero & hydrophobia on first consultation with no anti rabies treatment taken following the bite.

Table 2: Correlation of social demographic factors with duration of initiation of treatment following animal bite.

Factor	Chi square	df	P
Income	2.505	6	0.868
Age	23.95	18	0.157
Sex	1.544	6	0.957
Marital status	2.817	6	0.831
Distance travelled for ARV	5.37	12	0.944

Table 3: Distribution of respondents on the basis literacy & knowledge about fatality of rabies.

Rabies being fatal	Yes	No	Total
Illiterate	18 (5.71%)	45 (14.28%)	63 (20%)
Upto class VIII	64 (20.31%)	90 (28.57%)	154 (48.88%)
Upto class XII	45 (14.28%)	14 (4.44%)	59 (18.73%)
Graduate & postgraduates	33 (10.47%)	6 (1.90)	39 (12.3%)
Total	160 (50.79%)	155 (49.20%)	315
Chi square-50.87, df-9, P <0.0001			

DISCUSSION

The most common age group of animal bite was under 15 years of age & incidence of bite is more common in male these findings are similar to as stated in the study by Pradeep Umarigar in Ahemdabad.[6] As stated by WHO, the rural population was found to be more involved in rabies death,[5] but the current study differs in this as in our setup patients from rural areas are treated in hospitals in their neighborhood. The clinic has an attendance of referral cases with multiple & serious bites requiring anti Rabies Immunoglobulin, past history of animal bite or persons suffering aero/hydrophobia.

In the study most of the types of animal bite were due to stray dogs these findings are similar to as stated in the previous mentioned study.[6] In the study lower limb was most commonly involved in bite, also most of the attendees had cat-III bite which is similar to as stated by Venu Shah et al.[7] More than 50% respondents took anti rabies treatment after 24 hours almost 17% subjects were so nonchalant about the incidence that they failed to remember dates of bite. A large number of patients did not take appropriate first aid after bite & instead opted for home remedy like applying lime, chilly powder. This causes pain & burning to patients. Also, some of the patients opted for treatment by non-allopathic means which causes unnecessary delay in initiating ARV treatment.

This reflects ignorance about proper management of animal bite cases. This finding is similar to as concluded by Venu Shah et al. Also in their study, they have emphasized imparted health education by mass media.[7] In current study socio demographic characters were not found to be significantly associated with duration of initiation of anti-rabies treatment after bite. But higher education status is likely to raise knowledge about management of animal bite.

CONCLUSION

We conclude that the main cause of animal bite in the community is by stray dog & their population should be kept in check to avoid such incidences. A considerable segment of the population does not seek treatment for an animal bite within 24 hours of bite they use non allopathic treatment to manage dog bite before seeking medical aid which delays initiation of proper treatment. Increasing awareness pertaining to rabies being fatal disease, help in greater motivation of adequate management of animal bites.

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REFERENCES

1. Drew WL. Rabies. In: Ryan KJ, Ray CG, eds. Sherris Medical Microbiology. 4th ed. New York: McGraw Hill; 2004: 597-600.
2. World Health Organization (WHO). Rabies, 2011. Available at: http://www.who.int/rabies/en/. Accessed 31 December 2011.
3. World Health Organization (WHO). Rabies, 2011. Available at: http://www.who.int/rabies/en/. Accessed 31 December 2011.
4. Voice of America. New rabies vaccine shows promise for prevention, treatment, 2009. Available at: http://www.voanews.com/content/a-13-2009-07-08-voa62-68804832/412353.html. Accessed 30 January 2010.
5. World Health Organization. India's on-going war against rabies. In: WHO, eds. WHO Report. Volume 87, Number 12. Geneva: WHO; 2009: 885-964.
6. Pradeep Organization, Volumearmar, Prakash B. Patel, R. K. Bansal. Epidemiology of animal bite cases attending municipal tertiary care centres in Surat city: cross-sectional study. National J Community Med. 2013 Jan-Mar;4(1):153-7.
7. Venu Shah, D. V. Bala, Jatin Thakker, Arohi Dalal, Urvin Shah, Sandip Chauhan, et al. Epidemiological determinants of animal bite cases attending the anti-rabies clinic at V S General Hospital, Ahmedabad. Healthline. 2012;3(1):66.

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