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Original Research Article

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Sociodemographic profile and treatment seeking behaviour of animal bite patients attending the anti-rabies clinic at Patiala, Punjab

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ABSTRACT

Background: Rabies is an acute fatal viral disease. It can be prevented by eliminating exposures to rabid animals or by providing exposed persons prompt post exposure prophylaxis consist of local treatment of wounds in combination with appropriate administration of rabies immunoglobulin and vaccine. Aims and objectives were to study the sociodemographic profile of patients attending anti-rabies vaccination clinic and to study the treatment seeking behaviour and wound cleaning practices among them.

Methods: This was a cross sectional study conducted among 150 randomly selected animal bite patients attended Anti Rabies Clinic, Department of Community Medicine G.M.C. Patiala from 1 November 2018 to 31 February 2019. Data collected and statistical analysis was done using epi info7.

Results: Most of the patients were male 101 (67.34%). Out of 150 animal bite cases, majority of them were bitten by street dogs 135 (90%). It was found that 122 (81.34%) were category III bite, 26 (17.34%) were category II bites and 2 (1.34%) were category I bite. Only 92 (61.34%) patients washed wound with water and soap. About 21 (14%) patients applied chilies or turmeric or oil on their wound.

Conclusions: Majority of cases had bitten by dogs. Patients were less aware regarding proper wound care and seeking early treatment.

Keywords: Animal bite, Anti- rabies vaccine, Socio-demographic profile, Wound cleaning practices

INTRODUCTION

Rabies is a neglected tropical disease that predominantly affects poor and vulnerable populations. Rabies also known as hydrophobia is a zoonotic disease which can result in 100% mortality once symptoms of the disease develop.¹⁻⁴

Rabies primarily involves the central nervous system and it is transmitted by the bites or licks of canines especially dogs. It almost always culminates in death demanding prompt intervention in the form of vaccines and immunoglobulins.^{4,5} Although effective human vaccines and immunoglobulins exist for rabies, they are not readily available or accessible to those in need. Every year, more than 29 million people worldwide receive a post-bite vaccination. This is estimated to prevent hundreds of thousands of rabies deaths annually.² Globally, rabies deaths are rarely reported and children between the ages of 5-14 years are frequent victims.² Rabies is present on all continents except Antarctica, but more than 95% of human deaths occur in Asia and Africa. Rabies is reported in India throughout the year from all states except Lakshadweep and Andaman and Nicobar Islands.^{6,7} Many myths and cultural rituals still persist

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without any logic and appropriate knowledge regarding rabies. Myths are prevalent in the community for wound management of animal bite, such as application of red chilli, oil, turmeric, salt, lime and herbs instead of washing the wound with soap and water. This situation is rooted in the lack of awareness regarding preventive measures of rabies and proper post-exposure prophylaxis.3,8 Due to presence of various economic, political and cultural factors and lack of accurate data the disease has not been brought under control.9 Awareness of rabies disease engages communities and empowers people to save them by seeking the care they need. This includes an understanding of how to prevent rabies in animals, when to suspect rabies, and what to do in case of a bite. 10 This study was conducted at the anti-rabies clinic of G.M.C. Rajindra hospital Patiala, to understand the sociodemographic profile and treatment seeking behaviour of animal bite patients attending the anti-rabies clinic.

Aims and objectives

Aims and objectives were to study the sociodemographic profile of patients attending anti-rabies vaccination clinic and to study the treatment seeking behaviour and wound cleaning practices among them.

METHODS

This was a cross sectional study conducted at Anti Rabies Clinic, Department of Community Medicine G.M.C. Patiala, from 1 November 2018 to 31 February 2019. The study started after obtaining permission from the concerned authorities of the hospital. A total of 150 new cases of animal bite visited during study period were included in the study except those patients who visited for follow-up or did not give consent or unwilling to participate in study or moribund patients. Information was collected from patient or the attendant (in case of minors <18 years) who had given consent. Pretested semi structure questionnaire were used which consisted of socio demographic profile and detailed history of animal bites including type of animal, site, category of exposure, including both active and passive immunization, application of home remedies (red chilies, turmeric powder, oils, lime or herbs) on the wound. Data was collected and statistical analysis was done by using epi info. Results obtained were expressed in terms of percentages and proportions.

RESULTS

In present study total of 150 animal bite victims were included. Table 1 portrays the sociodemographic profile of animal bite victims. Most of patients 45 (30%) were in the age group of 15-30 years, followed by 32 (21%) were below 15 years, 31 (20%) patients were in 30-45 years and only 8.7% were above 60 years. Mean age of patients was 33±19.4 years, (range from 1-82). More than half 101 (67.3%) patients were males and 49 (32.7%) were

females. Sikhism is most practiced in Punjab. Most of patients were Sikhs (78%) followed by Hindus (15%) and very few were from others communities (7%). Education is an important factor in understanding of anti-rabies vaccine (ARV) schedule in terms of date of vaccination (reading ability) and compliance for regularity in scheduled dosage of ARV. About 35 (23.3%) patients had never attended school, while 31 (20.7%) had dropped out of school even before completing primary school education, 28 (18.7%) had dropped out even before completing secondary school and only 19 (12.7%) patients completed graduation. Majority of patients (34.0%) were students followed by self-employed (29.3%) and in services (15.3%). Majority of patients (76.7%) were found to be resident of rural Punjab.

Table 1: Sociodemographic profile of animal bite victims.

Variable	Sociodemographic factor	No. of patients	%
Age group (in years)	<15	32	21.3
	15-30	45	30.0
	30-45	31	20.7
	45-60	29	19.3
	>60	13	8.7
Sex	Male	101	67.3
	Female	49	32.7
Education level	Illiterate	35	23.3
	Primary	31	20.7
	Secondary	28	18.7
	high school	13	8.7
	higher secondary	17	11.3
	Graduate	19	12.7
Occupation	Business	2	1.3
	Farmer	3	2.0
	house wife	17	11.3
	self employed	44	29.3
	Services	23	15.3
	Student	51	34.0
	Unemployed	6	4.0
	Others	4	2.7

Table 2 shows the clinical profile of victims of animal bite. Only 108 (72%) patients had heard about rabies. Majority of patients 135 (90%) were bitten by street dogs, whereas pet dogs were responsible for 8 (5.4%) of the total bites, while few patients were bitten by cat 5 (3.3%) and monkey 2 (1.3%). In nearly half 70 (46.7%) patients the site of bite was lower extremities.

World Health Organization (WHO) classification is used for grading the exposure to rabies and guide to provide rabies prophylaxis. Majority of patients 122 (81.3%) classified as category III exposure, followed by 26 (17.3%) as category II exposure and only 2 patients diagnosed as category 1 exposure wound (Figure 1).

Table 2: Clinical profile of animal bite victims.

Characteristic features		No. of patients	%
Type of animal	Street dog	135	90
	Pet dog	8	5.4
	Cat	5	3.3
	Monkey	2	1.3
Site	Lower extremities	70	46.7
	Upper extremity	47	31.3
	Head/neck	10	6.7
	Abdomen	11	7.3
	Back	5	3.3
	Multiple sites	7	4.7
Local treatment before visiting ARV clinic	Wash with soap and water	92	61.3
	Apllied antiseptics	33	22.0
	Others	8	5.3
	No local treatment	17	11.3
Type of bite	Provoked	125	83.3
	Unprovoked	25	16.7
Category of exposure	One	2	1.3
	Two	26	17.3
	Three	122	81.3
Home remedies	Applied chilies	16	10.7
	Applied oil	2	1.3
	Turmeric	3	2.0
	Nothing	129	86.0

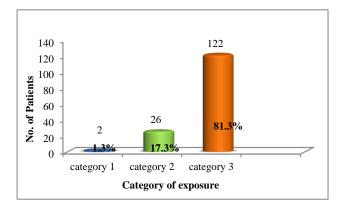


Figure 1: Distribution of patients according to the category of exposure of animal-bite wounds.

All animal bite victims should be advised to thoroughly flush the wound/s with running tap water, when appropriate for 15 minutes to remove the traces of saliva from the wound. More than half of patients 92 (61.3%) thoroughly flushed the wound/s with running tap water and 33 (22%) patients applied antiseptics without washing the wound, but 8 (5.3%) patients applied home remedies without washing the wound with soap and water and 17 (11.3%) patients came directly to anti rabies clinic without any local treatment (Figure 2).

Rabies immunoglobulin administration is recommended after category III exposures of individuals who have not

been previously vaccinated against rabies. In present study all 122 category III exposure victims were advised to receive rabies immunoglobulin but only 98 victims received anti rabies serum but 22 category III exposure victims were financially not capable to purchase rabies immunoglobulin so they denied to receive and 2 patients were sensitive to equine Rabies immunoglobulin.

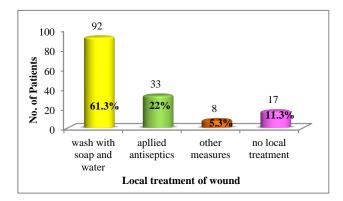


Figure 2: Distribution of patients according to the Local treatment of wound.

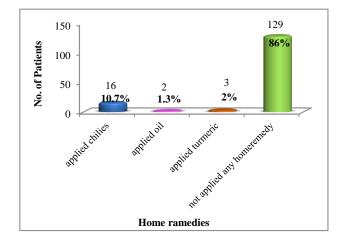


Figure 3: Distribution of patients according to use of home remedies.

About 129 (86%) patients had not applied any home remedy over wound and 14% patients wounds were covered with local applicants- like chillies 16 (10.7%), turmeric powder 3 (2%), oils 2 (1.3%) on wound site (Figure 3).

DISCUSSION

The present study was conducted to understand the sociodemographic profile and treatment seeking behaviour of patients. Among 150 animal bite victims about 67.3% were males and 32.7% were females. As male are indulge more in outside work so they will have more exposure with street dogs and other animals. About 30% patients were in the age group of 15-30 years, followed by 21%, 20%, 19.3% and 8.7% were in the age group of <15, 30-45, 45-60, >60 years. Majority of

patients 76.7% were found to be resident of rural Punjab. Similar findings were observed in other studies in literature.^{6,8}

The disease is transmitted by a rabid animal following bite, lick on a wound or mucous membrane of the individual. In present study majority patients were bitten by street dogs (90%), followed by pet dogs (5.4%), while few patients were bitten by rat (3.3%) and monkey (1.3%). The study conducted at Surat by Pradeep et al and Nag et al in Burdwan showed dog is involved as biting animal which was similar to the present study.^{6,9}

As per WHO a very large number 122 (81.3%) of patients fell under category III, followed by category II (17.3%) and only 2 victims were diagnosed in category I wound. These observations were consistent with Nag et al while predominantly category II bite was found in other study.^{6,8}

Proper wound washing greatly eliminates the risk of rabies death, is life saving and many times this simple procedure (of wound wash) is not done by the patients due to ignorance. In present study more than half of patients (61.3%) thoroughly flushed the wound/s with running tap water and 22% patients applied antiseptics after washing the wound. About 129 (86%) patients had not applied anything over wound but 14% patients wounds were covered with local applicants -like chillies (10.7%), turmeric powder (2%), oils 2 (1.3%) on wound site. Nag et al observed that only 6.3% knew and washed the wound with soap under running tap water, 32.4% with only water, and 21.3% of victims did wound toileting without water and 2.8% patients had applied lime and turmeric over wound, and 1.8% had alum on wound site.⁶ In another study by Kinge et al found washing wound with soap and water was used by only 6.7% and application of turmeric and oil (23.3%), antiseptics (16.6%) over the wound.8 Rambhau found that 2.8% had applied lime and turmeric over wound, and 1.8% had alum on wound site.⁷

CONCLUSION

Rabies is a deadly virus that is transmitted to humans by the bite of an infected animal. Inappropriate management of wound is a major hurdle for elimination of rabies. This study highlights certain important baseline characteristics of animal bite victims. Most of the patients had class III bites and some were following improper wound management even in severe exposures. Health education campaigns are utmost important to make people aware of rabies, vaccination of pets, and importance of seeking timely medical care after an animal bite are recommended which help in reducing the morbidity and mortality due to animal bites.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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