IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 1 Ser. 13 (January. 2019), PP 44-49
www.iosrjournals.org

Study of Socio-Demographic Factors and Cultural Practices in Animal Bite Victims Attending Tertiary Care Centre - A Cross-Sectional Study.

Dr.Gujalwar S.V[1]. Dr.Gattani P.L[2] Dr.Kulkarni S.K.[3]
[1](junior resident department of community medicine, Dr.SCGMC Nanded/ MUHS, India)
[2](prof and Hod, Department of community medicine,Dr.SCGMC Nanded/ MUHS,India)
[3](Asst.prof, Department of community medicine,Dr.SCGMC Nanded/ MUHS,India)
Corresponding Author: Dr.Gattani P.L.

Abstract: *Need for the study: -Rabies is highly fatal viral disease of central nervous system. There are certain cultural practices in management of wound following animal bite, which are widely prevalent.*
Objectives: 1) To study socio-demographic profile in animal bite victims.
2) To study cultural practices in animal bite victims regarding the initial management of animal bite.
Methodology: - A cross sectional study was carried out in the anti-rabies clinic from 1st January to 31March 2018.Systematic random sampling method was used. Every 3rd animal bite victim is enrolled in study after consent, till 260 samples achieved.
Results:-*In this study 73.08 % were male and 26.92 % were female. Most of the animal bite victims were educated up to primary school (21.54%) and secondary school (21.54%).43.08 % of animal bite victims belong to class IV socioeconomic status. Most common site of animal bite was lower extremity(65%).Regarding misconception of wound management, 10.38 % applied lime , 3.08 % applied turmeric , 23.85 % washed wound with soap and water ,19.62 % washed wound with water . 58.85 % cases had food taboos . 30 % cases avoid oily food consumption after animal bite ,11.15 % cases avoid milk and oily food consumption.*
Conclusion: Washing of wound with soap and water after animal bite is very important for prevention of Rabies which was lacking in most of cases. Food taboos associated with animal bite are widely prevalent so there is need for counselling the animal bite victims regarding cultural practices.

Key words: Animal bites, Cultural practices, Food taboos.

Date of Submission: 11-01-2019 Date of acceptance: 27-01-2019

I. Introduction

Rabies is the most dreadful of all communicable diseases and carries almost 100 % mortality if no preventive measures are taken on time. Humans gets this disease through bite of rabid animal, mainly dog.India alone accounts for 20847 deaths, more than one third of world's total giving it the highest incidence of rabies globally. An estimated 35172 human deaths (59.6% of global deaths) and loss of approximately 2.2 million DALYs occur per year in Asia due to dog mediated rabies. India accounts for almost deaths in Asia (59.9% of human rabies deaths) and globally (35% of human rabies deaths) (1).

India is very diverse country, especially for its social and cultural background. People's belief and practices vary by states and even districts. There is a wide range of myths and misconceptions related to different diseases/illnesses and people have great faith in it even though efficacy is unproven. These types of socio-cultural factors and influences are in practice for centuries and many attempts have been made to change these factors responsible for misbeliefs but it often failed due to the deficient community perception (2).

The application of soil, chili paste, oil etc by animal bite victim to wound is common but damaging the tissue further (3). Dog bite is one such situation where certain restriction in dietary patterns has been viewed seriously and followed all over the country. Some of the studies done in India have brought out a list of restriction followed by the victims which includes, refraining from eating potatoes, coriander, dhal, spicy foods, tomatoes, meat, drinking milk etc(4). According to, the association for Prevention and Control of Rabies in India, there is no need for any dietary restrictions post dog bite and during Post Exposure Treatment period (4),with this background, the present study was carried out with the objectives:

1) To study socio-demographic profile in animal bite victim's.
2) To study cultural practices in animal bite victim's regarding the initial management of animal bite.

II. Material And Methods

The present study was a cross-sectional study carried out at anti rabies vaccine clinic of a Tertiary Care Centre at Government medical college, Nanded from 1st January 2018 to 31st March, 2018.

Study Design: cross-sectional study.
Study Location: Anti-rabies vaccine clinic of a Tertiary Care Centre at Government medical college, Nanded Maharashtra, India.
Study Duration: from 1st January 2018 to 31st March, 2018.
Sample size: 260
Sample size calculation: was estimated based on the prevalence of taboos (42.15%) related to animal bite found in study done by KendreVarsharani V, Chinte LT, Jadhav YU (2014) in Latur district ofMaharashtra. Based on this the sample size was estimated using the formula.
$N = (Z^2 \times p \times q) / L^2$
Prevalence P= 42.15% Q = 100-P= 57.85 % precision L= 15% of P = 6.3. The estimated sample size was 236 and considering a 10% non-responders the sample size was estimated to be 259. This has been rounded off to 260 sample size for this particular study.
Subjects & selection method: Systematic random sampling used for selection of study participants. First case was selected randomly using lottery method and then every 3 rd case reporting to anti rabies vaccine clinic was taken in the study group. Total 1120 cases of animal bite were reported during the study period. 260 cases of animal bite were included in the study.
Inclusion criteria: those who are willing to participate in study are included.
Exclusion criteria: those who are not willing to participate in study are excluded.

Statistical analysis

After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited patients prospectively. All the cases of animal bite were classified as per guidelines given by World Health Organization (WHO) (4). Data collection was analyzed using SPSS version 16.Results was expressed in frequency. Chi-square test was used for finding out any association between the study variables. The results obtained with p-value < 0.05 were considered as statistically significant.

III. Result

Total 260 animal bite cases were studied. Table 1 shows socio demographic profile of animal bite victims. highest number of animal bite cases occurred in age group of 10-19 (21.15 %) followed by age group of 30-39 (18.08%),lowest number of animal bite cases occurred in age group of 50-59 (7.69%).out of260 study subject 190 (73.08%) were male and 70 (26.92 %) female.56 (21.54%) study subject were educated up to primary school.56 study subject were educated up to secondary school. 57 (21.92%) study subject were illiterate.139 (53.46 %) animal bite cases belong to nuclear family while 113 (43.46 %) belong to joint family.112 (43.08%) animal bite cases belong to class IV socioeconomic status as per modified B.G.Prasad scale. 70 (26.92%) study subject belong to class III socioeconomic status. only 34 (13.08%) animal bite cases belong to class I & II socioeconomic status.

Table no 1: Socio-demographic profile of animal bite victims.

Sr.no	Demographic variable	frequency	percentage
1	Age		
	0-9	46	17.69
	10-19	55	21.15
	20-29	36	13.85
	30-39	47	18.08
	40-49	34	13.08
	50-59	20	7.69
	60 and above	22	8.46
	total	260	100
2	Sex		
	Male	190	73.08
	Female	70	26.92
		260	100
3	Educationalstatus		
	Graduate	17	6.54
	Diploma	6	2.31
	Higher secondary	29	11.15

	Secondary school	56	21.54
	Middle school	39	15
	Primary school	56	21.54
	Illiterate	57	21.92
	Total	260	100
4	Religion		
	Hindu	237	91.15
	Muslim	23	8.85
	Total	260	100
5	Family type		
	Nuclear	139	53.46
	Joint	113	43.46
	Three generation	8	3.08
	Total	260	100
6	Socioeconomic status *		
	Upper class	13	5
	Upper middle class	21	8.08
	Middle class	44	16.92
	Lower middle class	112	43.08
	Lower class	70	26.92
	Total	260	100
7	Resident		
	Rural	157	60.38
	Urban	103	39.62
	total	260	100

*Modified BG Prasad classification- 2018 (CPI = 302).

Table 2 shows epidemiological profile of animal bite victims out of 260 animal bite cases 231 (88.85%) were bitten by dog, while 16 (6.15%) cases were bitten by pig and 5 cases were bitten by cat.165 (63.46%) animal bite cases reported within 24 hour to the tertiary care centre Nanded. 88 (33.85%) animal bite victims reported within 1 to 7 days after animal bite, 7 animal bite cases reported 7days after animal bite. Most common site of animal bite is lower limb (65%) followed by upper limb 61 (23.46%).246 (94.62%) animal bite cases belong to cat III and 14 (5.38%) animal bite cases belong to cat II as per WHO classification. Regarding ownership of animal 138 (53.08%) had pet animal .218 (83.85%) study subject had unprovoked bite and 42 (16.15%) study subject had provoked bite.230 study subject received ARS and 16 study subject had not taken ARS.

Table 2- Epidemiological profile of animal bite victims**.**

Sr.no	factors	frequency	Percentage
1	Type of animal		
	Dog	231	88.85
	Cat	5	1.92
	Pig	16	6.15
	Other	8	3.08
	Total	260	100
2	Reporting time		
	< 24 hour	165	63.46
	1-7 day	88	33.85
	>7 day	7	2.69
	Total	260	100
3	site of bite		
	Head,neck,face	5	1.92
	Upper limb	61	23.46
	Lower limb	169	65
	Trunk	21	8.08
	Multiple site	4	1.54
	Total	260	100
4	Category of bite		
	Cat ii	14	5.38
	Cat iii	246	94.62
	Total	260	100
5	Ownership of animal		
	Pet	138	53.08
	Street	122	46.92
	Total	260	100
6	Provocation status of animal bite		
	Provoked	42	16.15

	Unprovoked	218	83.85
	Total	260	100
7	ARS status of animal victims		
	ARS received	230	88.46
	ARS not advised	14	5.38
	ARS not received	16	6.15
	Total	260	100

• Table 3 shows practices in management of wound by animal bite victims at home / themselves .28.85 % study participants had not done any home management of wound.23.85% study subject washed wound with soap and water.19.62% study subject washed wound with water only,10.38 % study subject applied lime on wound. Application of tea powder,jawar grains, turmeric on wound is also practiced in negligible percentage of people.

Table 3 - Practices in management of wound by animal bite victims**.**

Practices in management of wound by animal bite victims	Frequency	Percentage
Washed with water	51	19.62
Washed with soap and water	62	23.85
Applied turmeric	8	3.08
Applied lime	27	10.38
Use of antiseptic	29	11.15
No home management of wound	75	28.85
Applied jawar	5	1.92
Applied tea powder	3	1.15
Total	260	100

Table 4 – food taboos in animal bite victims after animal bite.

Food items avoided following animal bite	frequency	Percentage
Oily foods	147	56.54 %
Milk	51	19.62 %
Rice	22	8.46 %
Non-veg	13	5 %
Vegetables	10	3.85 %
Nothing	108	41.54 %
Total *	351	134.71

*Multiple responses

In table number 4, 56.64% study subject avoided oily foods after animal bite.19.62% study subject avoided milk, 8.46% avoid rice, 5% avoid non-veg, and 3.85% avoid vegetables after animal bite.

Table 5- Association between education and food taboos in animal bite victims.

Education	Food taboos present	Absent	Total
Illiterate/primary/secondary/HSC	145	92	237
Graduate/diploma	9	14	23
Total	154	106	260

$\chi^2 = 4.2216$ P=0.039912

Graduate and diploma holder had less foods taboos after animal bite than illitrate,primary,secondary,HSC holder

Table 6- Association between food taboos and resident of animal bite victims.

Food taboos	Rural	Urban	Total
Present	102	52	154
Absent	55	51	106
Total	157	103	260

$\chi^2 = 5.4024$ P= 0.02011

Food taboos are more common in rural area than urban area.

IV. Discussion

Rabies is one of the most important fatal zoonotic diseases in India. It is caused by biting of a rabid dog. Dog bite cases are increasing now a days but many misconceptions, food taboos are still there in the community related to dog bite which has been imposed since ancient time. Many awareness activities are being carried out in the community but some misconceptions still persist.

In present study the sex wise distribution of cases was found to be 73.08% in males ,76.79 % in the study done by Rambhau D, Dilip DN (6)and 71.75% in study done by Kaware AC, Rokade HM, Mangulikar

SK (7) .The percentage of male affected was 42.2% in study Chinnaian S et al (4)and 51.6 % in study done by Sekhon AS, Singh A, Kaur P, Gupta S (8) .it is due to outdoor activities males are more common victims of animal bite. In this study 60.38% animal bite victims belong to rural area which was 62.1% in study by Rambhau D, Dilip DN (6) **.**This may be due to most of urban population going to nearbymunicipalcorporation hospital.

In our study illiteracy of animal bite victims is 21.92%, 25.9% in study by Rambhau D, DilipDN **(**6)but illiteracy was low in study by KendreVarsharani V, Chinte LT, Jadhav YU (3).In this study illiteracy and those who are educated up to high secondary school were more at risk of lack of knowledge regarding misconception of food restriction following animal bite which is similar to study by Chinnaian S et al (4).

Study done by Patel PG et al shows that 60.3% cases were reported within 24 hour afteranimal bite(10).In this study animal bite victims reporting to ARC after animal bite within 24 hours were more than study by KendreVarsharani V, Chinte LT, Jadhav YU (3) Rambhau D, Dilip DN (6), and Kaware AC, Rokade HM, Mangulikar SK (7).The commonest site of animal bite was lower extrimities in this study similar to study by Varsharani V, Chinte LT, Jadhav YU (3) and Rambhau D, Dilip DN (6).Most of the animal bite cases in the present study were of class III bite similar to study by Rambhau D, Dilip DN (6) but in study by Varsharani V, Chinte LT, Jadhav YU (3) most of cases were of class II.

In our study most common animal bite was dog which is also similar in other study (6, 7, and 8). Most of animal bite cases belongs to class IV socioeconomic status it is similar to study by Gogtay NJ et al (9).Practices of washing of wound with water and soap was seen in less number of cases in this study. The wound should be washed with plenty of water and soap preferable under running tap water for at least 15 minute (5).Irrigation of wound with virucidal agents can reduce the chance of developing rabies by up to 80% (5) but in study by ,Rambhau D, Dilip DN (6) and Kaware AC, Rokade HM, Mangulikar SK (7),it was seen in very less number of cases and in study by Gogtay NJ et al (9), it was seen in more cases than present study .Different findings for washing with soap and water and application of antiseptics were reported in a survey by Rozario et al. It reported that survey done in 2004, only 39.5% of bite victims washed the wounds with soap and water. These difference may be due to different education level and different myths and perceptions of the community (11).

In this study most of cases follow no home management of animal bite wound it is similar to study by KendreVarsharani V, Chinte LT, Jadhav YU (3) and Sekhon AS, Singh A, Kaur P, Gupta S (8) **.**Application of lime to animal bite wound was low in ourstudy and high in other study (3, 6, 7).In present study oily food restriction is higher in animal bite victims than study by Chinnaian S, et al (4). In study by Chinnaian et al non vegetarian food restriction is common. it is due to food taboos vary from region to region.

V. Conclusion

Persons with age 10-19 years, male, rural people were most common victims of animal bite.Washing of wound with soap and water after animal bite is very important for prevention of Rabies, which was lacking in most of cases. Food taboos are more in rural animal bite victims and illiterate,primary secondary,HSC educated animal bite victims.There is need for counselling the animal bite victims regarding cultural practices.Food taboos associated with animal bite are useless and can be harmful.

References

[1]. Kishor J, National Health Programs of India. 11th edition, New Delhi. Century Publications. 2014;441
[2]. (Jakasania AH, Dixit GT, Patel AP, Mansuri FM, Makadia KD. Misconceptions and Myths Regarding Animal Bite and Rabies: A Community Based Study in Ahmedabad. Hindu.;202:75.).
[3]. KendreVarsharani V, Chinte LT, Jadhav YU. Cultural Practices among Animal Bite Cases of Government Medical College, Latur.MedPulse – International Medical Journal.2014 Feb;1(3):61-64.
[4]. Chinnaian S, Sekaran G, Ramachandran U, Ravi R, Pandurangan MK. Taboos related to dog bite in an urban area of Kancheepuram District of Tamil Nadu, India. Journal of clinical and diagnostic research: JCDR. 2015 Jul;9(7):LC11.
[5]. Park K.: Park's Textbook of Preventive and Social Medicine. 24th Ed. Jabalpur. BanarasidasBhanot; 2017:P294-99.
[6]. Rambhau D, Dilip DN. Profile of animal bite cases in nanded district of Maharashtra State, India. Indian Journal of Fundamental and Applied Life Sciences. 2011 Jul;1(3):188-93.
[7]. Kaware AC, Rokade HM, Mangulikar SK. Epidemiological study of patients attending anti-rabies vaccination clinic of tertiary care hospital of Southern Maharashtra, India. International Journal Of Community Medicine And Public Health. 2017 Feb 2;3(4):865-8.
[8]. Sekhon AS, Singh A, Kaur P, Gupta S. Misconceptions and Myths in the management of animal bite case. Indian J Community Med. 2002 Jan 1;27(1):9-11.
[9]. 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. The Indian journal of medical research. 2014 Mar;139(3):459.

[10]. Patel PG, Solanki NV, Balaramanamma DV, Brahmbhatt MM. Current practice in management of animal bites in first referral unit of Ahmedabad, Gujarat. International Journal of Medical Science and Public Health. 2014 Dec 1;3(12):1528-30.
[11]. Menezes R. Rabies in India. Canadian Medical Association Journal. 2008 Feb 26;178(5):564-6.

Dr.Gujalwar S.V. "Study of Socio-Demographic Factors and Cultural Practices in Animal Bite Victims Attending Tertiary Care Centre - A Cross-Sectional Study.." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 1, 2019, pp 44-49.