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Socio-demographic and treatment profile of outdoor patients attending anti-rabies vaccination clinic

Harsha M Meshram[1]*, Sushama S. Thakre[2], Mohan B Khamgaokar[3]
Medical Officer 1, Associate Professor 2, Professor and Head 3
Department of Community Medicine, Indira Gandhi Government Medical College, Nagpur, India
*Corresponding author: Harsha M Meshram

Abstract

Although Rabies is a vaccine preventable disease, it still poses a significant public health problem in many countries in Asia and Africa where 95% of the 55,000 human deaths occur. The aim of the study was to assess the socio demographic profile and treatment pattern of animal bite patients. A cross-sectional study conducted over 100 patients attending anti-rabies vaccination clinic of IGGMC, Nagpur during March-May 2013. Detailed socio-demographic profile, type of bites, site, duration, category, wound toilet, treatment were inquired. Results indicated that the mean age of patients was 37.91±14.97 years. Majority(78%) were males. 93% were from urban areas. Unemployed were 37% and 8% were professionals. Category III bites were 80%. 72% patients had abrasions and 21% had deep wounds. Maximum (68%) bites were on lower limb followed by upper limb (27%), head (3%) and trunk (2%). Wound toileting was done by 74% cases and 41% had applied salt, oil and/or turmeric locally. Majority (81%) had dog bites followed by monkey(6%), cat (5%), pig (4%) and others (4%). Anti-rabies vaccine was given to 66% and immunoglobulin to 25% cases. It may be concluded that majority of the patients were from urban area and most of them were bitten by dogs with poor knowledge regarding wound care and early treatment.

Key words: Socio-demographic profile, animal bite, anti- rabies vaccine, wound toilet.

Introduction

Rabies, also known as hydrophobia is an acute, highly fatal viral disease of central nervous system, caused by Lyssavirus type 1. It is the only communicable disease of man which is always fatal[1]. It is mainly transmitted by animal bites, mostly dogs in the Indian context. Although Rabies is a vaccine preventable disease, it still poses a significant public health problem in many countries in Asia and Africa where 95% of 55000 human death occurs[2].

It occurs in more than 150 countries and territories. Although a number of carnivorous and bat species serves as natural reservoir, rabies in dogs is the source of 99 percent of human infection, and posses a potential threat to more than 3.3 billion people. In India alone, 20000 deaths (i.e. about 2 per lakh population at risk) estimated to occur annually; in Africa, the corresponding figure is 24000 (i.e. about 4 lakhs population at risk). It is estimated that in the absence of post exposure prophylaxis, about 327,000 persons would die from rabies in Africa and Asia each year[1].

Prompt and adequate local treatment of all bite wounds and scratches is the first requisite and is of utmost importance. The purpose of local treatment is to remove as much virus as possible from the site of inoculation before it can be absorbed on nerve endings. Animal experiments have shown that local wound treatment can reduce the chances of developing rabies by upto 80%[1].

Objectives

1) To assess the socio demographic profile of animal bite patients.
2) To study the treatment pattern and wound cleaning practices among them.

Materials and Methods

Study design: A hospital based cross-sectional study.

Study area: The study was carried out in anti-rabies vaccination clinic of Indira Gandhi Government Medical College, Nagpur.

Study period: The study was conducted from March 2013 to May 2013.

Study subjects: 100 patients of animal bite attending anti-rabies vaccination clinic for post exposure prophylaxis.

After obtaining written informed consent from the patients, all 100 patients were interviewed with the aid of preformed structured questionnaire. All the patients were subjected to Sociodemographic profile and detailed history of type of bites including site, duration, category of exposure, wound toilet, treatment including both active and passive immunization. Also history regarding health seeking behaviour of animal bite patients like application of oils, salt, lime, herbs, red chilies and turmeric powder on the wound was inquired. Statistical analysis was done by simple proportions and percentages.

Results

Table 1 shows socio-demographic picture of all the study participants. Out of total 100 patients studied bitten by animals, 50 % patients were in the age group of 20-40 years, 32% were between 40-60 years of age, 11% were above 60 years and least number i.e. 7 % was aged less than 20 years with mean age of 37.91±14.97 years. Considering the gender, 78% were male and 22% were female. It was observed that majority of patients i.e. 93% were from urban areas and only 7% were from rural areas. Majority i.e. 35% were educated up to high school, 27% patients were graduate or post graduate whereas 14% were uneducated. Out of 100 patients 8% were professional workers whereas 37% were un-employed including students. As per socio-economic status, 54% belonged to middle class, 39% to lower class and only 7% were from upper class. Out of total patients, 36% patients gave history of some or other type of addiction.

Table 2 shows characteristics of wounds like type of injury, type of bite and site of bite. Majority (75%) of bites were abrasions. About 79% were unprovoked bites and most common site of bite was lower limb (68%) followed by upper limb (27%), head (3%) and trunk (2%).

When patients were categorized as per WHO classification of animal bite, it was seen that 80% animal bites were of category III exposure; 16% belonged to category II animal exposure and only 4% belonged to category I exposure (Fig. 1).

Figure 2 shows distribution of patients according to the biting animal. Out of total patients 81% were of dog bites, 4% were pig bites followed by 6% monkey bites and 5% cat bites, 1% mongoose, rat, rabbit and mice bite each.

As shown in table 3, wound toileting was done by 74% of patients and only 16% had given history of using soap and water for cleaning the wound; whereas 26% of the patients had not done any wound toileting. 21% patients had given history of local application of turmeric powder, 20% had applied salt and oil over the wound and 6% had applied antiseptic on the wound. 42% did not apply anything over the wound.

Table 4 shows distribution of patients according to the treatment received. Active immunization (Anti rabies vaccine) was administered to 76% of cases whereas passive immunization (Immunoglobulin - equirab) was given to 61% patients, 93% were given inj TT.

Discussion

The study shows that maximum number of animal bite cases 78% were males. Higher number of cases among males may be due to the more outdoor activities of males. Similar findings were observed by Indu D et al[3] who showed that 57.7% study subjects were males. Behera et al[4] also reported that majority (69.9%) of patients were males.

In our study, the commonest site of animal bite was found to be lower limb in 68%, upper limb in 27%, head in 3% and trunk in only 2% of cases of animal bites (Table 2). Our study finding is consistent with the findings of study done by Indu D et al.[3] who observed that the most common site of injury was on the legs (50.1%) and hands (36.2%) and Gadekar RD et al[5] who observed that 79.2% cases had bite over lower limbs followed by upper limbs (14%), head, neck, face (3.1%), trunk (1.3%).

We found that 4%, 16% and 80% of the bitten patients incurred WHO category I, II and III exposures (mild, moderate and severe) respectively. Similar findings were observed by Indu D et al[3], who reported 5.4% category I, 37.5% category II and 57.1% category III exposure. Also Chauhan P et al[6] found that category III bites were more common (70.08%) than category II bites (29.61%). Khokhar et al[7] also got similar findings.

In our study most of the patients (81%) were inflicted by dogs followed by monkey and cats. Similarly Indu D et al[3] observed that majority of cases were bitten by dogs followed by cats. Renu Bedi et al[8] also found that dog bites contributed to 90.7% of all animal bites. Chauhan P et al[6] observed dog bites in 94% cases followed by cat bites in 1.86%. Behera et al[4] observed similar findings.

About 74% had done wound toileting whereas 26% had not. Similarly Indu d et al[3] reported that 92.7 per cent had performed wound cleansing on bite injury site and 7.3 per cent did not.

Conclusions

Majority of cases were adult males from urban areas, bitten by dogs. They had poor knowledge regarding proper wound care and seeking early treatment.

Recommendations

Community should be made aware of their role in immediate reporting of animal bites, importance of proper wound care, and necessity of taking anti-rabies vaccination.

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TABLES AND FIGURES

Table 1: Socio-demographic characteristics of patients n= 100

Character		No. of Patients	Percentage
Age	Below 20 years	7	7
	Between 20 and 40 years	50	50
	Between 40 and 60 years	32	32
	Above 60 years	11	11
Gender	Male	78	78
	Female	22	22
Education	Uneducated	14	14
	Primary	13	13
	Middle school	11	11
	High school	35	35
	Graduate, postgraduate	27	27
Residential area	Urban	93	93
	Rural	7	7
Addiction	Yes	36	36
	No	64	64
Occupation	Profession	8	8
	Skilled	10	10
	Semi-skilled	12	12
	Unskilled	33	33
	Unemployed	37	37
SES	Upper (I)	7	7
	Upper middle (II)	13	13
	Lower middle (III)	41	41
	Upper lower (IV)	20	20
	Lower (V)	19	19

Table 2: Distribution of patients according to the characteristics of wound n= 100

Character		No. of patients	Percentage
Type of wound	Licking	5	5
	Abrasion	72	75
	Deep	21	18
	Contusion /scratch	2	2
Type of bite	Provoked	21	21
	Unprovoked	79	79
Site of bite	Head	3	3
	Trunk	2	2
	Upper limb	27	27
	Lower limb	68	68

Table 3 : Distribution of cases according to wound care n= 100

Character		No. of patients	Percentage
Toiteting	Done	74	74
	Not done	26	26
Cleaning of wound done with	Water	58	58
	Soap and water	16	16
	None	26	26
Type of applicant	Salt n oil	20	20
	Turmeric	21	21
	Traditional substances like tulsi/ neem leaves	9	9
	Antiseptic	6	6
	Chilli powder	2	2
	None	42	42

Table 4: Distribution of cases according to treatment given n= 100

Treatment given		No. of patients	Percentage
Inj TT	Yes	93	93
	No	7	7
ARV	Yes	76	76
	No	24	24
Immunoglobulin	Yes	61	61
	No	39	39

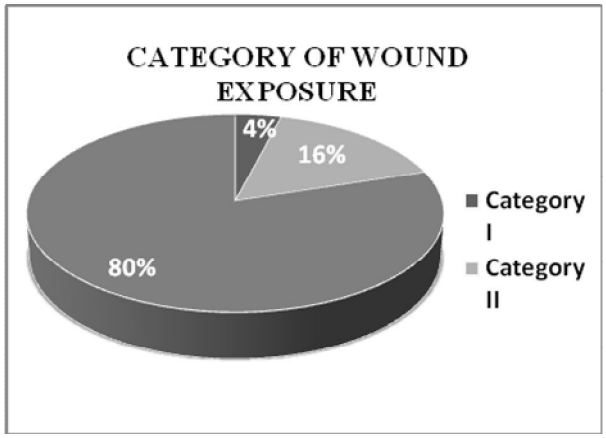

Figure 1: Distribution of patients according to the category of exposur

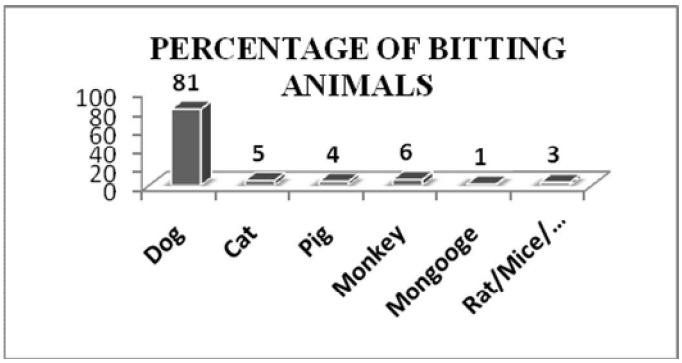

Figure 2: Distribution of patients according to the biting animal