



RESEARCH ARTICLE

A STUDY OF CERTAIN SOCIODEMOGRAPHIC FACTORS AMONG PATIENTS WITH DOG BITE IN MULKY COMMUNITY HEALTH CENTRE, DAKSHINA KANNADA DISTRICT

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ABSTRACT

Introduction: Rabies an archaic zoonotic disease. Nearly 15 million people are bitten by animals in India every year, with dogs being responsible for 96.2% of the bites. The most vulnerable members of society are children and poor or lower socio-economic classes. A majority of the victims had taken a partial course of vaccine.

Methodology: Longitudinal study was conducted in the of CHC Mulky, among patients registered from Novmber2015 to April 2016. All the patients receiving anti rabies vaccine in the OPD during study period who are willing to participate in the study were included in the study. After obtaining informed consent, the participants were administered the pre-tested, structured questionnaire at the time of first visit.

Results: The number of study subjects over a period of 6 months was235; all of them were bitten by dogs. Majority of them belongs 21 to 30 age group (22.9%). Males are more compared to females.89.7% subjects belongs Hindu religion followed by Muslims. 60% subjects belongs to BPL family. Only 34.4% subjects completed the full course of treatment.

Conclusion: This study shows that dog bites affect people of all age groups. Though people are aware of the necessity to approach a health facility following dog bite they are not motivated to complete the full course of vaccination following exposure. There is a need to create awareness regarding adherence to treatment through a strong information education and communication programme among the community.

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INTRODUCTION

Rabies an archaic zoonotic disease, which has been described in the ancient Indian Scripture, the Atharvaveda continues to be a major public health problem even today (Deshmukh, 2004). It is ranked as the 10th biggest cause of death due to infectious diseases in the world, and results in 50,000 - 60,000 deaths annually, majority of them being in tropical developing countries (Haupt, 1999). About 36% of these deaths occur in India, with an estimated burden of 2.74 rabies cases per 100,000 people per year, and actual number of deaths projected as 20,565 annually (Rozario Menezes, 2008). In India, rabies is not a notifiable disease and there is no organized surveillance for human or animal cases. The most vulnerable members of society, children and poor or lower socio-economic classes are typically affected and succumb to this disease (Dutta, 1999; Ghosh, 2006). The classic clinical features of rabies viral

infection, in humans, include hydrophobia, aerophobia, hyper-salivation, agitation, and neurological symptoms, invariably resulting in a fatal encephalomyelitis (Dimaano *et al.*, 2011).

A majority of the victims are unvaccinated, adult males, from rural areas. Many victims use indigenous methods of treatment following animal bite, and only about half of them seek hospital attention. One tenth of these patients had taken a partial course of vaccine. The most common bite sites are the extremities (Sudarshan *et al.*, 2007). Nearly 15 million people are bitten by animals in India every year, with dogs being responsible for 96.2% of the bites, mostly stray animals (WHO 2008). The incidence of animal bites is 17.4 per 1000 population. Category III exposure as per the WHO classification is estimated to be around 63%. Washing of the wound with water/soap or water alone, are practiced by 58.5% people. Application of chillies, salt, turmeric powder, lime, snuff powder, paste of leaves, acid, ash are also practiced by 10.8% of bite victims (Ichhpujani *et al.*, 2008). This study was planned to estimate the number of dog bite cases coming to Community Health Centre mulky for Vaccine and their compliance, to throw light upon the requirements needed and

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the difficulties in vaccination in order to prevent an easily preventable deadly disease.

MATERIALS AND METHODS

Longitudinal study was conducted in CHC Mulky, among patients registered from November 2015 to April 2016. All the patients receiving anti rabies vaccine in the OPD during study period who are willing to participate in the study were included in the study. After obtaining free and informed consent, the participants were administered the pre-tested, structured questionnaire at the time of first visit to CHC. The dog bite victims were classified into 3 Categories of contact and recommended post exposure prophylaxis as per the WHO guidelines.

Categories of contact

- Category 1 – Touching or feeding animals, licks on intact skin.
 Category 2 – Nibbling of uncovered skin, minor scratches or abrasions without bleeding.
 Category 3 – Single or multiple trans-dermal bites or scratches, licks on broken skin; contamination of mucous membrane with saliva from licks, contacts with bats.

The participants were followed up for the subsequent dosage as advised. On completion of the time for full course of recommended dosage, the records were analysed and the data was collected. The results were analysed using SPSS software.

RESULTS

The Table 1 shows that number of study subjects over a period of 6 months were 235, all of them were bitten by dogs. 54 (22.97%) were in the 21-30 years age group, 45(19.14%) were in the 31-40 years age group and 46 (19.57%) were more than 50 years of age. 135 (57.44%) were males and 100 (42.56%) were females. 211 (89.7%) subjects belongs Hindu religion followed by Muslims. Majority of the study subjects belongs to BPL Family (60%)

Table 1. Sociodemographic distribution of study Population (N=235)

Age group (in years)	Number	Percentage
Less than 10	20	8.51
11-20	36	15.31
21-30	54	22.97
31-40	45	19.14
41-50	34	14.46
More than 50	46	19.57
Sex		
Male	135	57.44
Female	100	42.56
Religion		
Hindu	211	89.78
Muslim	14	5.95
Christian	10	4.25
Socioeconomic Status		
APL(Above Poverty line)	94	40.00
BPL(Below Poverty line)	141	60.00

Table 2. Nature of wound in the Study Subjects (N=235)

Site of Dog Bite	Number	Percentage
Leg	105	44.68
Hand	109	46.38
Others	21	8.9
Severity of the wound		
Category I	34	14.46
Category II	132	56.17
Category III	69	29.36
Cleaning of the Wound		
Yes	221	94.04
No	14	5.96
Cleaning Agent (N=221)		
Water	68	30.76
Water with soap	138	62.44
Other	15	15.06

105 (44.68%) of the bites were on the legs, 109 (46.38%) were bitten on the hands, 21 (8.9%) were bitten on the body and the rest in multiple sites. Category 1 contact was 34 (14.46%), category 2 contact was 132(56.17%) and Category 3 contact was 69 (29.36%). Only 221 (94.04%) of the victims cleaned the wound with water, or soap and water.

Table 3. Vaccine Coverage of the study subjects (N=235)

Time Interval	Number	Percentage
Same day of dog bite	158	67.23
Previous day	49	20.85
>2day	28	11.91
Referred by Whom		
Self	162	68.93
Private hospital	32	13.61
PHC	41	17.44
Number of Doses received		
1	34	14.46
2	36	15.31
3	44	18.72
4	40	17.02
5	81	34.46

158 (67.23%) subjects approached the hospital on the same day of dog bite, 49 (20.85%) came on the previous day and 28 (11.91%) came to the hospital after 2 days. 162(68.93%) subjects came to this hospital of their own, while 73 (31%) were referred by private hospital and PHC. The study shows that 81(34.46%) subjects of the category 2 and 3 bites received all 5 doses of vaccination, 44 (18.72%) subjects received 3 doses, 40 (17.02%) subject received 4 doses.

DISCUSSION

The present study revealed that the majority of the dog bite victims were males 57.44%. 66%of those bitten were below 40 years. Several international and national studies have reported a similar profile where the productive age group is predominantly affected (Aghahowa and Ogbevoen, 2010; Clinical and epidemiological features of human rabies cases in the Philippines, 2011). In the present study that most of the dog bite victims (85.55%) had Category 2 or 3 wounds, 91.06% of the bites were on the extremities, 94.04% of the victims washed the wound. Public health educational programs are needed to create awareness in the public regarding the dangers of inadequately managed animal bites. The importance of proper wound care must be reinforced. Studies have shown varied

results with regards to the completion of anti-rabies regimen ranging from 50.2% to 40.5% (Sudarshan *et al.*, 2006). In the present study 67.23% of the dog bite victims approached the hospital on the same day and 34.46 % completed the full course of vaccination. Retrospective studies on rabies victims in India have shown that dogs were the biting animals, majority of the victims were males and unvaccinated, 10% of the victims were partially immunized with post exposure prophylaxis (Sudarshan *et al.*, 2007). This emphasizes the need for adherence to the recommended course of vaccination.

Conclusion

This study shows that dog bites affect people of all age groups. Though people are aware of the necessity to approach a health facility following dog bite they are not motivated to complete the full course of vaccination following exposure. There is a need to create awareness regarding adherence to treatment through a strong information education and communication programme among the community.

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