Title: A COMPARATIVE STUDY OF HEALTH SEEKING BEHAVIOUR OF ANIMAL BITE CASES IN RURAL AND URBAN AREAS OF MEERUT DISTRICT

Author: **Dr. Jairaj Singh Hanspal1, Dr. Rahul Bansal2, Dr. Shailendar Choudhury3, Dr. Roopa Hanspal4, Dr. Pawan Parashar5**

1. Professor and Head.
2. Assistant Professor.
   Department of Community Medicine, SMI Hospital Dehradun, Uttarakhand
3. Associate Professor.
   Department of Community Medicine, SGRR Medical College Dehradun, Uttarakhand
4. Associate Professor
   Department of Community Medicine, SMI Hospital Dehradun, Uttarakhand.

Keywords Animal bite, treatment approach, late reporting, Anti Rabies Vaccine

Abstract To Study the Health seeking behaviour of animal bite cases.

Original Article

A Comparative Study of Health seeking behaviour of animal bite cases in rural and urban areas of Meerut District

Dr. Jairaj Singh Hanspal[1], Dr. Rahul Bansal[2], Dr. Shailander Choudhary[3], Dr. Roopa Hanspal[4], Dr. Pawan Parashar[5]

Department of Community Medicine
SGRR Medical College & SMI Hospital, Dehradun, Uttarakhand

Abstract

Objective: To study the Health seeking behaviour of animal bite cases

Study Design: Cross-sectional study by interview method.

Subjects: 400 inhabitants of village Khajuri of Meerut district and 160 population of Multan nagar area in Meerut city.

Statistical analysis: simple proportions and percentages.

Results: Out of 400 people interviewed in rural area, 142 (35.5%) animal bite cases were found and in urban area out of 160 inhabitants interviewed 12 (7.5%) animal bite cases were found in last six months. Majority of people in rural area preferred home remedies of treatment by red chillies and turmeric paste applications, whereas in urban area people would prefer going to government hospitals for treatment.

About 60% people in rural area were bitten by stray dog whereas in urban area majority were bitten by pet animals. In rural area majority cases took more than 2 days from exposure to reporting at ARC as they were following indigenous methods and home remedies whereas in urban area majority cases approached ARC late due to ignorance and negligence. Majority of bite cases at both the areas did not receive complete doses anti rabies vaccines.

Key words: Animal bite, treatment approach, late reporting, Anti Rabies vaccine.

Introduction:

Animal bites pose a major public health threat both in developed and developing nations. These bites not only increase the morbidity and mortality but also loss of man-days and money on treatment. In India alone, Rabies causes an estimated 20,000 deaths with 17.4 million exposures to animal bite every year[1]. The health seeking behaviour of people regarding animal bite could be one of the reasons for such quantity of exposures. DALYs due to rabies is more than due to SARS and dengue fever[2]. In India a person is bitten by an animal every 2 seconds, and someone dies from rabies every 30 minutes[3]. By mere washing of wounds and application of antiseptics, the risk of rabies will reduce by about 50%[4]. There are myths and false believes associated with wound management. These include application of oils, herbs and red chillies on the wound inflicted by rabid animal. More faith in indigenous medicines that are of unproven efficacy and not washing of wound properly because of fear that it would get infected[5]. We need to understand local epidemiology of bites for the development of an efficient precaution programme at local level.

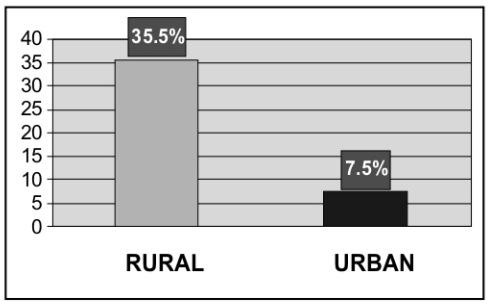

Fig-I : Distribution of animal bite cases according to residential area

This study is undertaken to highlight the health seeking behaviour of animal bite cases.

Materials and Methods:

Study area: The study was conducted in rural area of village Khajuri in Meerut district and urban area of Multan nagar in Meerut city.

Study Period: The study was carried out from January 2008 to June 2008

[1]Professor and Head, Department of Community Medicine, Subharti Medical College, Meerut.
[2]Assistant Professor, Department of Community Medicine, Subharti Medical College, Meerut.
[3]Associate Professor, Department of Community Medicine, SGRR Medical College & SMI Hospital, Dehradun.
[4]Associate Professor, Department of Community Medicine, Subharti Medical College, Meerut.

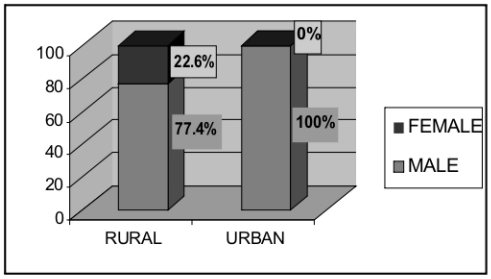

Fig. II Distribution of animal bite cases According to sex and residential area

Study design: This is a community based cross-sectional study.

Participants: Total 142 inhabitants of rural area and 160 inhabitants of urban area were contacted. Selection of the areas and families were done by simple random method. Each area was divided into four quadrants and one centre for the study purposes.

The head of the household or in his/ her absence any other adult member of the family was interviewed.

Study instrument: A structured questionnaire was prepared. The questions were related to health seeking approach of animal bite cases.

Statistical Analysis: The data was analysed by simple proportion and percentages.

Results and discussion:

Total 400 inhabitants of rural area and 160 inhabitants of urban area were included in the present study. Out of the total, 536 (95.7%) were males and 24 (4.3%) were females. Almost same pattern of sex distribution were found in rural and urban area.

Almost half (52.0%) of the studied population in rural area were illiterate whereas only 16.3% of population were illiterate in urban area.

Out of 400 people interviewed in rural area, 142 (35.5%) animal bite cases were found. In urban area out of 160 inhabitants interviewed 12 (7.5%) animal bite cases were found in last six months. Virtually when compared to all other studies i.e Shetty *et al*[6], Agarwal *et al*[7] and Sudarshan *et al*[8] demonstrated more animal bite cases in rural areas. The high incidence of bites in rural area as compared to urban may be due to the fact that people in rural area, mainly farmers and labourers, proceed for work in early hours of the day and continue late evening, thus more exposed to bites primarily due to poor visibility. Prevalence of dog bite cases are more in rural area than in urban.

Table-I
Distribution of animal bite cases according to sex and residential area

Sex	Rural area No (%)	Urban area No (%)	Total No (%)
Male	110(77.4)	10 (83.3)	120 (77.9)
Female	32 (22.6)	2 (16.7)	34 (22.1)
Total	142(100.0)	12 (100.0)	154 (100.0)

Table-II
Distribution of animal bite cases according to educational status

LITERACY STATUS	RURAL (N= 142) Percentage	URBAN (N= 12) Percentage
Illiterate	52.0	16.3
Primary	26.3	40.6
Higher Secondary	16.7	33.1
Graduate & above	5.0	10.0

Table-III
Distribution of animal bite cases according to Age-group

Age Group	RURAL (N= 142) Percentage	URBAN (N= 12) Percentage
5 - 10 years	7.0	8.3
10 - 20 years	29.6	41.7
20 - 40 years	38.7	33.4
40 - 60 years	17.6	16.6
60 - 80 years	6.3	0
> 80 years	2.1	0

Table-IV
Distribution of cases according to the site of Bite

SITE OF BITE	RURAL (N= 142) Percentage	URBAN (N= 12) Percentage
Lower limb	67.6	91.7
Upper limb	26.8	8.3
Head & face	2.1	0.0
Trunk	3.5	0.0

Table-V
Distribution of cases according to the type of animal

TYPE OF ANIMAL	RURAL (N= 142) Percentage	URBAN (N= 12) Percentage
Stray Dog	50.0	33.3
Pet Dog	48.6	66.7
Monkey	1.4	0.0

Table-VI
Distribution of animal bite cases according to their treatment seeking approach

TREATMENT APPROACH	RURAL (N= 142) Percentage	URBAN (N= 142) Percentage
Wash & Seek Medical Help	6.2	72.5
Home Treatment	47.6	10.9
Indigenous	24.3	11.4
Untreated	21.9	5.2

Table-VII
Distribution of cases according to Reasons for late reporting to Health centre for seeking treatment

Reason for Late Reporting	RURAL (N= 142) Percentage	URBAN (N= 142) Percentage
Initially taken Indigenous / Home remedy	57.2	19.6
Ignorance / Negligence	26.3	45.8
Waiting to see if animal alive	12.3	34.6
Far distance of Health Centre	4.2	0.0

Maximum number of cases had bite on lower limbs in both rural (67.6%) and urban (91.7%) areas.

Numbers of stray dog bites are more in rural area (50.0%), but in urban area numbers of bites are more of pet dogs (66.7%).

In case of animal bite, majority of people in rural area prefer indigenous methods and home remedies (71.9%) including application of chilly/turmeric powder, jhaad-phook etc, whereas, in urban area majority people (72.5%) preferred seeking medical help.

About one-fifth of study population in rural area believed in self healing of bite wound.

In both areas about 50% of bite cases show late reporting to health centre. In rural area, it was due to initial involvement in indigenous/home remedies whereas in urban area it was due to ignorance and negligence.

Majority of people in both rural and urban areas had little knowledge about rabies, its transmission, management and prophylaxis.

In rural area only (23.3%) bite cases went to Health centre for treatment and among those only about one-forth of them completed the full course of ARV. In urban area also majority of animal bite cases (80.7%) did not completed the full course of ARV.

About 60% people in rural area were bitten by stray dog whereas in urban area majority were bitten by pet animals. In rural area majority cases took more than 2 days from exposure to reporting at ARC whereas in urban area majority cases approached ARC after 1 day.

Conclusion

Our study indicated that the proper health seeking approach of the affected population is still lacking, which is not only among people in rural areas, but also among urban population. The point to be highlighted is that majority of people believe in indigenous methods or home remedies for treating animal bite wounds and still others will do nothing and will keep it untreated. So a thorough workout is needed to organize awareness programme regarding management of animal bites in rural and urban areas.

In absence of a National Rabies Control Programme, local health authorities and Medical Institutions should take the lead to increase awareness amongst the community regarding primary prevention of animal bites as well as health problems associated with it.

References

1. Association for Prevention & Control of Rabies in India (APCRI). Assessing burden of Rabies in India. WHO sponsored national multi-centric Rabies survey, May, 2004: APCRI, 2004.
2. Nat Rev Microbiol. Biting back against rabies. Oct 2010; 8: 676.
3. Menezes R. Rabies in India. CMAJ. 2008 Feb 26; 178(5): 564-8.
4. Amlan Goswami. Critical Situation in Rabies Post-exposure Prophylaxis. APCRI Journal. 2005 Jan; Vol IX, issue II: 24-27.
5. AS Sekhon, Amarjit singh, P.Kaur, S.Gupta. Misconceptions and Myths in the management of Animal bite case. Ind J. Commun Med; Vol XXVII, No. 1 Jan-Mar 2002, 9-11
6. Shetty PA, Chaturvedi S, Singh Z. Profile of animal bite cases in Pune. J Commun Dis. 2005; 37(1): 66-72.
7. Agarwal N, Reddajah VP. Epidemiology of dog bites- A community based study in India. Trop Doct. 2004; 34(2): 76-8.
8. Sudarshan MK, Mahendra BJ, Narayan DH. A community survey of dog bites, antirabies treatment, rebies and dog population management in Bangalore city. J Commun Dis. 2001; 33(4): 245-51.