Study of General Awareness, Attitude, Behavior, and Practice Study on Dog Bites and its Management in the Context of Prevention of Rabies Among the Victims of Dog Bite Attending the OPD Services of CHC Muradnagar

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ABSTRACT

Objectives: This is a recent study conducted during 15th September 2013 to 15th December 2013 at the community health centre (CHC), Muradnagar, distt Ghaziabad, among the victims of dog/animal bite attending the daily OPD services of CHC. To identify the level of general awareness and knowledge of wound management and rabies among the cases of dog bite and to study the awareness of people about antirabies vaccines and health service utilization. Methods: The study population composed of 250 victims of dog or animal bite, Patients were selected and approached after proper briefing, with well-prepared two page structured questionnaire designed in local language to assess their knowledge about the wound management, information about the epidemiology of dog bite. Results and conclusion: The result of the study reflect the very low level of awareness about the postdog bite management of wounds as well as about the disease rabies group of people questioned and also reveals serious gaps in understanding of wound severity, classification and correct application of PEP with ARV vaccine and RIG. There is definitely a gap in people’s knowledge, attitude, and practices about dog bite and its management and there is need of taking serious measures for the control of stray dog population at the block level.

Keywords: Attitude, dog bite, rabies, knowledge

Introduction

Awareness and knowledge about management of commonly occurring injuries caused by animals, particularly in rural areas has been documented to be fragmented, disintegrated, insufficient, and nonsequential. Various wrong practices and myths associated with these injuries have also been reported among the victims of animal bite attending the OPD services of CHC Muradnagar. Although cases of dog bite constitute a problem of considerable magnitude, not all the victims of a dog bite seek medical help. Unquestionably, the level of knowledge of the community and concern about dog bite injuries has an important role to play in dealing with this problem.

Dog or animal bite victims consists of important and very common part of daily OPD services and emergency departments of all CHCs and PHCs for antirabies Treatment at earliest as possible. The antirabies treatment, namely postexposure prophylaxis is a life saving treatment in definite rabid animal bite. It has three main components, namely wound treatment (1/3), antirabies vaccine (1/3), antirabies serum + advice (1/3) and it should be timely and appropriately given.

Hence, we conducted our study at CHC level with the following objectives to document the knowledge of victims of dog or animal bites about the first aid measures at home, full treatment course, utilization of nearest health facility and about the preventive measures in general in cases of dog or animal bite.
Jain, et al.: Study of general awareness of people about the management of dog bite

Objective

• To identify the level of general awareness and knowledge of wound management and rabies among the cases of dog or animal bite
• To know the general awareness about the rabies in general population
• To ascertain the first aid measures adopted by people after dog or animal bite
• To study the awareness of people about anti rabies vaccines and health services utilization.

Materials and Methods

This study was conducted recently during 15th September 2013 to 15th December 2013 among the victims of dog or animal bite attending the OPD services of community health centre (CHC), Muradnagar, distt Ghaziabad. The study population composed of 250 victims of dog or animal bite randomly selected from the patients attending the OPD services of CHC Muradnagar.

Patients were selected and approached after proper briefing, with well-prepared two page structured questionnaire designed in local language to assess their knowledge about the wound management, information about the epidemiology of dog bite, it also sought information on various local practices adopted in the population related with wound management, use of health facilities and their knowledge about rabies. They were interviewed for the some additional information where ever required.

The questionnaire included in detail closed questions about the demographics of the victims, circumstances of bite incidents, body parts injured and the degree of injury, ownership of biting animals, the level of knowledge about rabies, and postbite home treatment (washing of wound) prior to visiting the hospital for medical treatment, dose schedule of the ARV, awareness about the fatality of rabies, involvement of community in reduction or prevention of dog bite/rabies incident.

The interviews were conducted by the final year nursing students posted at CHC under the supervision of Physician and senior staff nurses or pharmacist of the CHC providing PEP rabies vaccination.

Results

The questionnaire was administered to 250 victims of dog bite attended the OPD of CHC Muradnagar. Questionnaire consists of 29 questions covering all the possible fields to obtain the maximum benefit from the study.

A total of 250 cases of dog or animal bite selected as sample size for the study during the study period 15th September 2013 to 15th December 2013. Males constituted 180 (72%) whereas female were 130 (28%) of the total case. Children less than 15 years accounted for a maximum of 132 (52.8%) of the total [Table 1].

Out of total bite 30 (12%) were only provoked and maximum of them were unprovoked 220 (88%). Thirty five (14%) victims were bitten by their own dogs and maximum number 171 (69) were affected by street dogs and rest of them 44 (18) were victimized by neighbors’ pet [Table 2].

Thirty (12%) of the cases suffered from class I exposures and 212 (85%) from class II and only 8 (3%) were fall in the class III.

Bites involved the lower limb and back 195 (78%) of the victims followed by upper limb and abdomen in the trunk in 50 (20%) cases and minimum was involvement of head and face in 5 (2%). Previous history of dog/animal bite was present in 70 (28%) cases [Table 2].

A large majority of 200 (80%) had applied chilly and oil paste on the wound before coming to the CHC. Only 2 (0.8%) washed the wound with water and soap as required as primary home management of the bite wound, 40 (16%) of victims did not took any primary home management measures [Table 3].

Regarding consequences of a dog bite only 50 (20%) subjects knew the name of disease (rabies). And only 45 (18%) of

| Age (in years) | No (%) |
|----------------|--------|
| 0-5            | 28 (11.20) |
| 5-10           | 55 (22) |
| 10-15          | 49 (19.6) |
| 15-20          | 31 (12.4) |
| 20-30          | 28 (11.2) |
| 30-40          | 18 (7.2) |
| 40-50          | 9 (3.6) |
| 50-60          | 15 (6) |
| >60            | 17 (6.8) |
| Total          | 250 (100) |

| Profile                  | No (%) |
|--------------------------|--------|
| Whether the bite was provoked |       |
| Yes                      | 30 (12) |
| No                       | 220 (88) |
| Ownership of dog         |        |
| Pet                      | 35 (14) |
| Stray/street             | 171 (69) |
| Neighbor                 | 44 (18) |
| Site of bite             |        |
| Head and face            | 5 (2) |
| Upper limb/abdomen       | 50 (20) |
| Lower limb/back          | 195 (78) |
| Classification of bite/exposure |       |
| Class I                  | 30 (12) |
| Class II                 | 212 (85) |
| Class III                | 8 (3) |
| Previous history of dog/animal bite |      |
| Yes                      | 70 (28) |
| No                       | 180 (72) |
250 cases were aware about the fatality rate (100%) of the disease once occurred. 210 (84%) of total cases were unaware about the various dangerous sites involved during the bite, for example, head, face, neck, and genitalia [Table 4].

Two-hundred and five (82%) of the subjects were not aware about the early contact with health facility for early treatment, but 180 (72%) turned up to CHC for the treatment within 24 h after the incident. Two-hundred and fifteen (86%) of victims were well aware about the availability of tetanus and antirabies vaccine (ARV) at CHC.Muradnagar and visited their whenever required [Table 5].

Two-hundred and thirty five (94%) of victims were in favor of active participation of community at personal level in coordination with health, municipal, and other government departments for the controlling of street dogs population by different means.

### Table 3: Home management of wound before coming to the CHC

| Home management               | No (%) |
|-------------------------------|--------|
| Applied chilly and oil paste  | 200 (80) |
| Washed with water             | 8 (3.2) |
| Washed with soap and running water | 2 (0.8) |
| No home management            | 40 (16) |
| Total                         | 250 (100) |

CHC: Community health centre

### Table 4: Knowledge about consequences or seriousness of dog bite/rabies

| Response                        | No (%) |
|---------------------------------|--------|
| Name of disease (rabies)        |        |
| Yes                             | 50 (20) |
| No                              | 200 (80) |
| Seriousness of disease          |        |
| Yes                             | 60 (34) |
| No                              | 190 (66) |
| Fatality rate                   |        |
| Yes                             | 45 (18) |
| No                              | 205 (82) |
| Awareness about danger sites (head, face, neck, genitalia) | |
| Yes                             | 40 (16) |
| No                              | 210 (84) |

### Table 5: Categories of contact and recommended post exposure prophylaxis

| Categories of contact with suspect rabid animal | Post exposure prophylaxis measures |
|-------------------------------------------------|-----------------------------------|
| I - Touching or feeding animals, licks on intact skin | None |
| II - Nibbling of uncovered skin, minor scratches or abrasions without bleeding | Immediate vaccination and local treatment of the wound |
| III - Single or multiple transdermal bites or scratches, licks on broken skin; contamination of mucous membrane with saliva from licks, contacts with hats | Immediate vaccination and administration of rabies immunoglobulin; local treatment of the wound |

**Discussion**

Dog bite injuries remain a problem of significant proportion in the area of CHC Muradnagar and also in all the country. Children are the most frequent victim of dog bite.[1-7] In this study also 52.8% of the cases were children less than 15 years of age. In this study, about 72% of the cases occurred in males due to more exposure of males to the outer environment as compared to women and it compares well with the findings of other studies.[4-6]

Extremities were the most commonly involved (98%). Nimale et al. have also reported involvement of lower limbs in 65% and upper limbs in 25.4% of the cases, whereas, Bunkar has observed involvement of lower limbs in 65.66% and upper limbs in 23.96% (5–6).

In this study, maximum (69%) of the subjects were bitten by street dogs that were not known to the victim. Similar observation has also been made by Sudarshan.[1] This can be explained by the fact that our study was conducted in rural area of district Ghaziabad of U.P where there is no control over the population and movements of street dogs.

Class II bites (85.%) and unprovoked bites (88%) accounted for most of the injuries as reported in other studies completed in different parts of the country.

Before coming to the dispensary as many as 80% had applied chili paste on the wound and only 2% had washed the wound with soap and water, whereas, in Patiala 31.55% of the cases had applied chili paste and a higher proportion (21.02%) had washed the wound with soap and water.

This discrepancy could be due to lack of information in the rural population of the current study about the management of the wound as compared to the cases attending the antirabies clinic of a hospital in Patiala.

Most of the victims were not aware about the fatality of rabies but number of cases reporting within 24 hours for medical help was 72%. This was much more in number when compared with the studies done by Bunkar (37.03%) and Nimale et al. (47%) at antirabies clinic at Government Medical College Hospital, Aurangabad.[4]

This reflects the fact that people of local area of CHC Muradnagar are well aware about the all time availability of ARV at CHC. This is due to proper spread of information by the health care workers, staff, and patients themselves about the services provided at CHC level.

**Conclusion and Recommendations**

This study clearly showed a gap in people’s knowledge, attitude, and practices about dog bite and its management among the victims of dog/animal bite in the area of Muradnagar. Regarding
first aid measure adopted after dog/animal bite the condition is more worse, as the myths and misconception about the first home management of wound like application of red chili, lime, apply tobacco leaves or go to tantric or local temple for the accomplishment of some or other religious customs.

No doubt, knowledge, and practice regarding dog/animal bites are comparatively better amongst literate people but still a major group of rural India is lacking awareness and basic knowledge regarding the appropriate management of animal bite wound and vaccine administration.

Local treatment of the wound right after a bite is an important step in the management of a case and this fact was highly lacking in the subjects. Total indifference to roaming of stray dogs in the community has led to increase in the problem as was seen in this study.

Therefore, prevention of dog bite injuries and their management must include a variety of approaches. High number of injuries involving dogs who are freely roaming suggests that such legislation which includes an increased effort to remove stray dogs and encourage owners to properly contain their dogs should be implemented.

Since young children are more prone to such incidents they should be the target of anticipatory guidance by the parents and the teachers. Efforts should be made to educate the community about the hazards of dog bite and its consequences and management of such a wound at home, Rabies awareness campaigns should be launched and pet enumeration, licensing and vaccination should be made compulsory. Also CMEs and reorientation programmes should be designed to highlight the guidelines given by WHO regarding treatment of animal bites.

Persistence in following these guidelines by the doctors will go a long way in prevention of human rabies.

This paper demonstrates the need for more lay and professional education and action on the growing problem of dog bite.

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