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Research article

## SELF WOUND MANAGEMENT PRACTICES BEFORE ATTENDING ANTIRABIES VACCINE CLINIC

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### ABSTRACT

**Introduction:** In INDIA almost 20000 people die (40% of world death) each year from rabies. Most of these deaths could be prevented by post exposure prophylaxis with wound washing, rabies immunoglobulin & vaccination. Local wound management alone can reduce viral load by up to 80%. **Objective:** To study self-wound management practices in animal exposure patients before attending a tertiary level ARV clinic. **Methodology:** Data regarding wound management was collected by individual interview of patients attending the ARV clinic during OCT 2011 to MAR 2012. The data collected in the form of a questionnaire. Analysis of data was done in the Department Of Community Medicine, V.S.S. Medical College, Burla. **Results:** Total 493 cases of animal exposure were attended during the study period. Most common biting animal was dog (94.5%). 31% of cases were under the age of 10 years & 23% belongs to the age of 10-19 years. Male to female ratio was 3:1. Most of the cases (91%) were of category III exposure. Immediate management of wound was practiced by 63-77% of cases before visiting ARV clinic; only 2% wash the wound with running water & soap for 15 minutes. 39% of cases applied Dettol/savlon at the wound side & other 38% applied turmeric, red chilli, kerosene, Band-Aid & ghee locally. Most cases (61%) reported to ARV clinic within 24hours.

**Keywords:** Animal Exposure, Post Exposure Prophylaxis, Wound Management, Self-Management Practices.

### INTRODUCTION

Worldwide each year 50 000 people die from rabies, with India carrying the greatest burden of more than 20 000 deaths (40% of world death) each year from rabies. <sup>[1]</sup> Deaths are due to improper wound management & delay in reporting in clinics. Most of the patients first opt for available local remedies on the wounds before reporting which became fatal for them. Improper wound management helps the rabies virus to grow & penetrate the nerves. Deaths could be prevented by Post Exposure Prophylaxis which includes wound management, vaccination & immunoglobulin. Local wound treatment alone can

reduce the chances of developing rabies by up to 80% by reducing viral load at local sites. 40% of people who are bitten by suspect rabid animals are children under 15 years of age. <sup>[2]</sup> On this background the above study was conducted in an Antirabies Vaccine (A.R.V.) Clinic of a tertiary hospital to assess the self-wound management practices in animal exposure patients before attending the clinic for treatment.

### MATERIAL AND METHODS

**Study Design:** A cross sectional study

**Study Duration & Place:** Study was carried out from October 2011 to Mar 2012 in A.R.V. Clinic of V.S.S. Medical College, Burla.

**Inclusion Criteria:** All patients exposed to animal bites and attending the A.R.V. Clinic of V.S.S. Medical College, Burla were included in the study. In case of paediatric patients attending the A.R.V. Clinic for vaccination, the data were collected from the accompanying person.

**Exclusion criteria:** Patients, who were not willing to participate, were excluded from the study.

Ethical clearances for the study was collected from the Ethical committee of the medical college and consent to participate in the study were collected from each study individuals before collection of data.

**Sample size:** All the animal exposure cases reported within the study period and willing to participate in the study were included in the study. A total of 493 cases were included in the study within the study time period.

**Methodology:** A pre-designed and pre-tested structured questionnaire was used for collection of information from cases of animal exposure. In case of paediatric cases exposed to animal bites and reported in the clinic for vaccination, the questionnaire were asked to the accompanying person and data were recorded for analysis. The questionnaire was prepared to collect information regarding socio-demography, type of animal exposure, cause of bite (provoked or unprovoked), history of previous exposure, any self-management practice before attending the ARV clinic. Collected data were analysed in SPSS V.16 software.

## RESULTS

During the study a total of 493 patients were included in the research. Out of the 493, 368 (74.6%) patients were male; with the male to female ratio of 2.9:1. Most of the subjects (153, 31%) were in the age group 0 – 9 years followed by 10 – 19 years age group (113, 23%).

**Table 1: Distribution of subjects as per the animal exposure**

Animal Exposure	No. of Patients	Percentage
Dog	466	94.5
Cat	15	3.0
Monkey & Others	12	2.5
Total	493	100

**Table 2: Distribution of subjects as per the category of exposure**

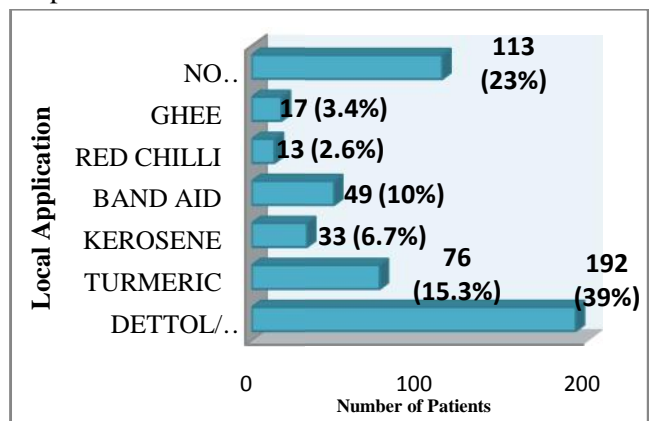
Category of Exposure <sup>[3]</sup>	No. of Patients	Percentage
Category I	11	2.2
Category II	37	7.5
Category III	445	90.3
Total	493	100

Out of the 493 cases attended the ARV clinic for treatment, 90.3% (445) subjects were of Category III exposure to different animals and they took both the vaccine and immunoglobulin with the wound dressing as the treatments. Only 37 cases were of category II exposure. Dog was the most common animal that causes the injury among 94.5% (466) of subjects followed by Cat (3%).

**Table 3: Immediate Pre-treatment after Animal Exposure**

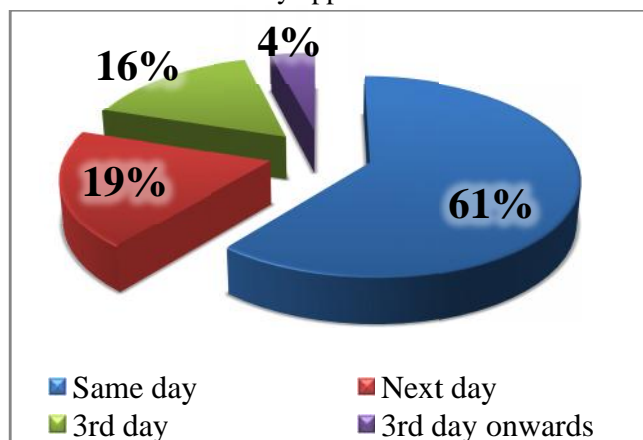
Self-Treatment Before Attending the Clinic	No. of Patients	Percentage
Not washed	183	37
Washed with water	167	34
Washed with running water without soap	89	18
Washed with running water and soap for < 15min	44	09
Washed with running water and soap for > 15 min	10	02

In this research 37% of the subjects not washed their wounds irrespective of the duration of exposure to the animal. Only 2% of them washed their wound as per the guidelines by using a running water source with soap.



**Fig 1: Distribution of cases as per types of local application before reporting to clinic**

Out of the 493 subjects, 39% applied local antiseptics, 38% applied local remedies like turmeric, red chilli, kerosene, ghee etc. in their wound before coming for treatment. 23% of subjects came to the ARV clinic without any application in their wounds.



**Fig 2: Interval between animal exposure and reporting at A. R. V. Clinic**

In the present study 61% of the subjects reported to the clinic for treatment on the same day and 19% of the subjects reported to the clinic after 3<sup>rd</sup> day of exposure irrespective of the type and site of animal bites.

## DISCUSSION

In the present study majority of the cases were between the age group 0-9 years followed by 10-19 years. This finding is similar to that reported by Vyas et al,<sup>[4]</sup> Bedi et al,<sup>[5]</sup> Williams et al,<sup>[6]</sup> Sharma et al,<sup>[7]</sup> Hanspal et al,<sup>[8]</sup> Shetty et al<sup>[9]</sup> where the maximum number of cases were <15 years. The above finding is contradictory to the findings of TR Behera et al<sup>[10]</sup> where most of the cases were in the productive age group > 18 years.

Out of the 493, 74.6% (368) cases were male. In the present study the male to female ratio is 2.9:1. A study by Vyas et al<sup>[4]</sup> reported the male to female ratio of 3:1 and Shetty et al<sup>[9]</sup> reported the ratio of 1.98:1 in a study at Pune. The higher male proportion in this study corroborates with other studies by Hanspal et al<sup>[8]</sup> at Jamnagar, Sudarshan et al<sup>[11]</sup> in Bangalore & Khokhar et al<sup>[12]</sup> in Delhi.

In the present study, dog was found to be the most common biting animal as 94.5% cases were bitten by them. This is similar to findings of Vyas et al,<sup>[4]</sup> Williams et al,<sup>[6]</sup> Sharma et al,<sup>[7]</sup> and Shetty et al.<sup>[9]</sup> In others studies like Bedi et al,<sup>[5]</sup> Shetty et al<sup>[9]</sup> & Behera et al,<sup>[10]</sup> from different parts of India also had reported dog bite as the most common animal exposure among

the cases reported to ARV clinics. Majority of cases (90.3%) in the present study had category III bites and this finding is similar to the study findings by Vyas et al,<sup>[4]</sup> Bedi et al,<sup>[5]</sup> & Behera et al.<sup>[10]</sup> Only 2.2% cases belonged to Category I indicating that awareness of community about Category I exposure is poor.

Out of 493 cases reported to ARV clinic, 34% of cases washed their wound before coming to the clinic but only 2% of cases washed their wound as per the guidelines with soap and running water for more than 15 minutes. In the study by Sharma et al<sup>[7]</sup> only 23.5% cases were washed their wound with soap and water.

Immediate pre-treatment at the wound site was done by 380 (77%) of the cases. Out of the 380 cases who had applied something at the site of bite, highest i.e. 39% had applied Dettol/Savlon followed by 15.3% who applied turmeric paste at the site. Vyas et al<sup>[4]</sup>; in their study reported that 72% cases applied some local treatment in their wounds before coming to ARV clinic. In the present study only 23% of cases did not apply anything on the wound before seeking the treatment. Sharma et al<sup>[7]</sup> in his study reported that 44.3% of reported cases did not apply anything on the wound before coming to ARV clinic.

Majority of cases (61%) reported to the clinic on the same day and received treatment including antirabies vaccine & immunoglobulin whenever required. Almost all cases (96%) reported within first three days after animal bite with highest percentage 61% reporting on the same day. In a study by Vyas et al<sup>[4]</sup> 22.5% of cases reported on the same day and maximum 42.5% reported on second day. Sharma et al<sup>[7]</sup> reported that majority of cases of animal bite did not report immediately to health centre for treatment after dog bite. Sharma et al<sup>[7]</sup> & Shetty et al<sup>[9]</sup> reported that maximum number of cases reported within 24 hours of the animal bite. Behera et al<sup>[10]</sup> reported that in their study maximum subjects reported to health centre within 24 to 48 hours of animal bite.

## CONCLUSION

In this study, majority of the animal exposure cases were of Category III exposure and only few cases were practiced the proper method of wound washing and on time reporting. The application of different materials on wound before attending the clinic for

treatment and the higher proportion of late reporting suggests that there is lack of awareness among people regarding the fatality of rabies.

**Suggestions:** As most of the people are practicing local treatment before attending health centre for treatment, this signifies that the population are not aware of the risk of rabies and what to do in case of an animal bite. Health educational programs are needed to create awareness among people regarding the benefits of proper wound washing and the dangers of inadequately managed animal bite wounds.

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**Conflict of Interest:** None declared

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