

# Primary care of the animal bite wound: practice or theory

KEYWORDS	animal bite, anti rabies clinic, washing the wound				
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**ABSTRACT** Rabies is zoonotic disease which is virtually 100% fatal. Prompt & adequate local treatment of all bite wounds is first requisite. The present study was cross sectional study conducted at anti rabies clinic of SCB Medical College, Cuttack during 1st February to 30th April, 2014 to assess the primary wound care practices by the victims of animal bite. Out of 360 patients, 238 (66%) washed the wound. 213 (89%) used soap & water while 25 (11%) used only water. Out of 360 patients, 90 (25%) patients applied antiseptic after bite of whom 22 (24%) used betadine, 14 (16%) betadine & dettol, 32 (36%) dettol, 4 (4%) savlon & 18 (20%) patients used spirit. 173 (48%) patients applied non pharmacological substances over wound as bitter gourd 152 (88%), bitter gourd & turmeric 4 (2.3%), lime 7 (4%), milk 4 (2.3%), nail polish 3 (1.7%) & 3 (1.7%) patients applied turmeric.

# INTRODUCTION:

Rabies is a highly fatal viral disease of the central nervous system, caused by Lyassa virus type 1. It is primarily a zoonotic disease of warm blooded animals, particularly dogs, cats, jackals and wolves. It occurs in more than 150 countries and territories. Rabies in dogs is the source of 99% of human infection and possess a potential threat to more than 3.3 billion people.<sup>1</sup> According to WHO report, worldwide human deaths from endemic canine rabies were estimated 55000 deaths in a year. In India, it is estimated that, around 20,565 to 30,000 persons die of rabies, with incidence of 1.7 per 100,000 population<sup>2</sup>. The annual animal bite load is estimated to be 17.4 million (1.7%) and 46.9% takes antirabies vaccination<sup>3</sup>. In India, various cultural practices are followed after dog bite. The application of soil, chili paste, oil etc. is common but unnecessary and damaging the tissue further<sup>4</sup>. Multiple myths are associated with the disease, which vary from region to region, and they determine the post exposure treatment seeking behaviour of animal bite victims<sup>5</sup>. Prompt & adequate local treatment of all bite wounds & scratches is the first requisite & is of utmost importance. It can reduce the chances of developing rabies by up to 80%. Lack of awareness regarding first aid after animal bite can be fatal. We undertook this study to assess the primary wound care practices by the victims of animal bite.

## **MATERIAL & METHODS:**

The present hospital based cross sectional study was carried out among patients attending anti-rabies clinic (ARV) of a tertiary care centre of SCB Medical College, Cuttack during 1<sup>st</sup> February to 30<sup>th</sup> April, 2014. A systematic random sampling was used during this study. Total 360 patients were taken as study subjects. After explaining the purpose of study and obtaining verbal informed consent from the patients, all patients were interviewed with the aid of preformed structured questionnaire. Data was collected in ARV clinic up to the end of study period. A detailed history about type of bites including site, duration, category of exposure, wound toilet, treatment including both active and passive immunization was taken. Also history regarding health seeking behaviour of animal bite patients like application of oils, salt, lime and turmeric paste on the wound was inquired. All the cases of animal bite were classified as per guidelines given by World Health Organization (WHO). Statistical analysis was done using percentage.

### **RESULTS:**

Table 1shows that total 360 patients were included for study. Out of 360 patients majority were males (64%) as compared to females (36%). Out of 360 patients, 238 (66%) washed the wound & remaining 122 (34%) did not wash the wound. Out of 238 patients, 213 (89%) used soap & water while 25 (11%) of them used only water.

#### Table1: Wound washing

Character	Number	Percentage
Not washed the wound	122	34%
Washed the wound	238	66%
Total	360	100%
With soap & water	213	89%
With only water	25	11%
Total	238	100%

Table	2:	Time-lag	between	bite	&	washing	of	wound

Time period	Number	Percentage
<1 hour	212	89%
>1 hour	26	11%
	238	100%
Type of water	Number	Percentage
Running water	209	88%
Still water	29	12%
	238	100%
Duration of washing of wound	Number	Percentage
< 5 minutes	126	53%
5-15 minutes	112	47%
	238	100%

Table 2 shows that majority of patients 212 (89%) washed the wound within 1 hour of animal bite and remaining 26 (11%) patients washed it after 1 hour of bite. In 209 (88%) of cases running water was used for cleaning of wound and still water was used in only 29 (12%) of cases. In 126 (53%) of cases wound washed for less than 5 minutes and in remaining 112 (47%) patients cleaning of wound was done for 5-15 minutes approximately.

Type of antiseptic	Number	percentage
Betadine	22	24%
dettol	32	36%
Betadine & dettol	14	16%
Savlon	4	4%
Spirit	18	20%
Total	90	100%

## Table 3: Types of antiseptic used

Table 3 shows only 90(25%) patients applied any type of antiseptic after animal bite to that wound and remaining 270 (75%) patients did not apply any kind of antiseptic. Out of 90 patients applied antiseptic after bite of whom 22 (24%) used betadine, 14 (16%) betadine & dettol, 32 (36%) dettol, 4 (4%) savlon & remaining 18 (20%) patients used spirit.

Type 4. Types of non-pharmacological agents use	Туре	4:	Types	of	non-pharmaco	logical	agents	used	d
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Non-pharmacological agent	Number	Percentage
Bitter gourd	152	88%
Turmeric	3	1.7%
Bitter gourd & turmeric	4	2.3%
Lime	7	4%
Milk	4	2.3%
Nail polish	3	1.7%
Total	173	100%

The table 4 shows that out of 360 patients 173(48%) patients used some kind of non pharmacological substances over the wound and remaining 187 (52%) patients did not apply the same over wound. Out of those 173 patients applied non pharmacological substances over the wound as bitter gourd 152 (88%), bitter gourd & turmeric 4 (2.3%), lime 7 (4%), milk 4 (2.3%), nail polish 3 (1.7%) & 3 (1.7%) patients applied turmeric.

# DISCUSSION:

The present study highlighted the epidemiology of animal bite cases reported to anti-rabies vaccination (ARV) clinic of a tertiary care hospital. In the present study, more number of males (64%) were victims of animal bites probably because of their mobile nature than females (36%). This finding is similar to the studies done by Ganasva A et al<sup>6</sup> (71.7%), Trivedi A et al<sup>7</sup> (76.19%) and Borkar A et al<sup>8</sup> (71.22%).

Although WHO guidelines 2008 have mentioned that post exposure prophylaxis should be started as early as possible after exposure to the potentially rabid animal including washing the wound with soap and water. In our study, 66% washed the wound & remaining 34% did not wash the wound. Out of those, who washed the wound 89% used soap & water while 11% of them used only water. This finding is very much contradict to the finding in study of Ganasva A et al<sup>6</sup>, Trivedi A et al<sup>7</sup>, BorkarA et al<sup>8</sup> and Sukhsohale ND et al<sup>9</sup>.

In the present study majority of patients 212 (89%) washed the wound within 1 hour of animal bite and 209 (88%) cases used running water was used for cleaning of wound. Umarigar P et al<sup>10</sup> found that in 70% of cases wound cleaning was done after 1 hour.

In the present study 25% patients applied antiseptic in the

form of betadine (24%), dettol (36%),both betadine & dettol (16%), spirit (20%) and savlon(4%) after animal bite.

In the present study application of non-pharmacological substances was done by 48% patients. A common perception is that local irritability produced by these substances would destroy the rabies virus in the wound site. Out of those 173 patients applied non pharmacological substances over the wound as bitter gourd 152 (88%), bitter gourd & turmeric 4 (2.3%), lime 7 (4%), milk 4 (2.3%), nail polish 3 (1.7%) & 3 (1.7%) patients applied turmeric. Patil SP, Singh VS carried out a study on pre-treatment practices and some of the epidemiological factors associated among dog bite cases attending outpatient department in tertiary care hospital in 2012 and found that majority 87 (24.3%) applied local remedies like lime 33 (37.93%) followed by turmeric 21 (24.13%) and chilli powder (16.09%).<sup>11</sup>

# CONCLUSION:

Though rabies is preventable, still people are not aware about right pr-treatment practices and there is definite need to increase the public awareness in this context. The bite victims did not take proper measures for wound care or first aid. Indigenous treatment was quite prevalent. All these call for concerted effort for a mass awareness campaign. IEC regarding primary care of wound needs to be intensified and World Rabies Day can act as a platform for the purpose.

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