JAMC Vol. 12 No. 3, 2000

SNAKE BITE: TREATMENT SEEKING BEHAVIOUR AMONG SINDH RURAL POPULATION

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Background: Snake bite is a common medical emergency in Sindh rural and the epidemiological features and management of the cases vary from region to region. This survey was conducted to see the community practices regarding the management of snake bite cases. ***Methods:*** We conducted a community based survey from 200 villages from six different districts of Sindh. ***Results:*** 74.5% of snake bite cases seek the treatment from local doctors while 25.5% use the other measures. 92% of the cases use different First Aid measures while 8% were not using any First Aid measures. 55.5% of the people know about the Anti Snake Venom (ASV) while 45.5% do not know about it. Only 49% of the people were using different preventive measures against snake bite.

INTRODUCTION

Snake bite is largely a problem of the rural area, where basic health facilities are poor and as a result deaths are common.

The four families of venomous snakes Atractaspididae, Elapidae, Hydrophildae and Viperidae contain some 500 species, whereas the fifth family, the Colubridae contains 40 species venomous to humans. Less then 200 species have caused clinically severe envenoming, ending in death or permanent disability.[1]

There are some 300 species of land snakes in Pakistan out of which 40 are poisonous. The commonest poisonous snakes in Pakistan are Cobra, Viper and Krait.[3]

Unfortunately, there are no reliable statistics to indicate the incidence, morbidity and mortality of snake bite in any country let alone a continent of the world. Statistics which are available are virtually all based on hospital cases.[2]

In areas of the world where snake bite is most common, the rural tropics victims of snake bite rarely go to the hospital. They prefer treatment from the native/local doctor. In Nigeria a native doctor treats several hundred snake bite patients each year, his house dwelling being only one mile from the University Teaching Hospital which records only about 5 cases per year [2].

Most snake bites occur on the lower limbs of farmers, hands-men and hunters in the rural areas[6-8]. Seasonal variation in the incidence of snake bite is attributed to farming activity in relation to rainfall and to the yearly reproductive cycle of the snake; severe flooding has given rise to epidemics of snake bite in Pakistan, Colombia and India[1].

The W.H.O. estimates that as many as one million snake bites occur throughout the world each year causing perhaps 30,000 to 40,000 deaths. The largest number of fatal snake bites occur in South East Asia[3,11].

Pakistan being an agricultural country where about 70% population lives in rural areas and majority of them are farm workers ploughing and harvesting with most primitive methods, they water their lands bare-footed and in darkness of night without even the cheapest source of light[3].

Snake bite is largely a problem of the rural area and as a result reliable data for incidence, morbidity and mortality are scarce.

According to a survey, the estimated annual mortality rate due to snake bite in Pakistan is 1.9/100,000 population[3].

In India the reported annual mortality is 5.4/100,000 population[3].

In Myanamar (Burma) snake bite has been the fifth most common cause of death (3.3/100,000 population) [4].

In Srilanka the annual death rate is 6/100,000 population[1].

Snake bite is a rare emergency in most parts of the world and because its management is thought to require specialized knowledge, many clinicians close their minds to the simple therapeutic principles that could prevent morbidity and mortality.

Management starts with first aid by relatives, friends or fellow workers of the snake bite victim who happen to be present when the bite occurs. The aims of the first aid should be to treat or delay life threatening effects. Most snake bite victims are terrified and require reassurance. The bitten limb should be immobilized if possible and the patient

quickly moved to the health facility. Local incisions and suction are more likely to introduce infection and cause persistent bleeding than to remove significant amount of venom from the wound.

The value of tourniquets has not been adequately investigated in human patients. A broad firm (but not tight) constricting band may temporarily delay the spread of viper venom along lymphatics and superficial veins, but this effect has not been proved to be clinically useful and may lead to congestion and edema of the limb confusing signs that suggest envenoming where there may be none[5].

A tight (arterial occlusive) tourniquet is effective in preventing venous return from the occluded limb and delays death in animals given snake venoms. [5]

The only specific treatment for snake venom poisoning is anti venom (ASV), also known as anti venin and anti snake bite serum. [1]

To reduce the risk of bites, snakes should never be disturbed, attacked or handled. In snake infested areas, boots, socks and long trousers should be worn. A light should always be carried at night.

MATERIALS AND METHODS

This community based survey/study investigated the treatment seeking behaviour of the rural community to snake bite cases. 200 interviews were conducted in July and August 1999 through questionnaires from Hala, Khairpur, Moro, Pano-Aaqil, Sukkur and Umerkot areas. The interviews were conducted mostly from the rural areas but some interviews were also taken from the patients of snake bites admitted in the hospitals. The selection criteria for the interview were:

1. Age between 20 - 70 years.
2. Have seen/accompanied cases of snake bite.

RESULT

Completed questionnaires revealed that 61% of the community members who were interviewed were within the age group of 31-50 years. Females were 7% while rest (93%) were male. In our survey only 25% people were educated.

74.5% of the snake bite cases were seeking the treatment from the local Doctors/Traditional healers/Jogi's while 25.5% were managing the cases themselves. Common snake found in our survey was the viper (Lundi).

92% of the people were giving first aid out of which 79% were applying tourniquet, 29% giving cut and doing suction and rest were using other methods like applying onion over bite area (table 1).

Table-1: FIRST AID MEASURE (n=200).

YES	NO
184(92%)	16(8%)
Tourniquet	146(79%)
Cut/Suction	55(29%)
Other	3(2%)

All the people were giving some sort of extra food after the bite (table 2), while 44% of the people were applying food restriction for the snake bite cases.

Table-2: Food Given After snake Bite

Milk	Ghee (Desi)	Onion	Alum	Imli
91	81	69	27	8
45.5%	40.5%	34.5%	13.5%	4%

37% of the people were keeping the snake bite cases in dark rooms, while rest were not.

44.5% of the people have no knowledge about Anti Snake Venom. 56.5% of the people interviewed have the history of death due to snake bite in their family in last 5-10 years.

Only 49% of the people are using preventive measures against snake bites while 51% were not.

DISCUSSION

This survey was conducted to see the community practices regarding the management of snake bite cases.

Our survey results show that majority of the people (74.5%) are going to local doctors instead of going to tertiary care hospitals. This is the practice of community in most of the rural tropical countries. In a community based retrospective survey among a rural population in Kenya, 68% of snake bite cases sought treatment from traditional healers who used local herbal preparation[9].

A survey of fishing villages in Asia revealed that less than 15% of fishing folk bitten by sea snakes sought treatment from the Government Medical Services [2].

The common snake found in our survey area was Viper 56.5% (Lundi) as the same has been reported by other surveys in Pakistan[3,11]. In a study of snake venom poisoning in central Karnala (India), Viper was the most common poisonous snake[10].

Our survey revealed that 92% of the people were using the first aid measures; out of which 79% were applying the tourniquet, 29% were giving the cut/suction and rest were using other local methods

without knowing the benefits or hazards of above methods.

In a study to see the tourniquet effectiveness to reduce the severity of envenoming after snake bite in Brazil clinical and laboratory data from patients who applied a tourniquet and who did not apply it after being bitten did not show any difference.[12] In one study of viper bites in Jammu, India 94% of patients who had received incision developed local infection compared with none in the group without incision[14].

In our survey 56.5% people say that death has occurred in their family in last 5-10 years due to snake bite; this may be due to the lack of health services, lack of knowledge of ASV, non availability of ASV or the traditional local methods they are using for the snake bite cases.

In Brazil in 1983-84, 730 cases of snake bite were seen six hours after the bite and received antivenom. There were no case of death [3]. This shows the effectiveness of ASV.

CONCLUSION

This community based survey indicates that still majority of the Sindh rural population are using different local/traditional methods in the management of snake bite cases. Though the awareness about the ASV has increased (55.5%) but some time the availability of ASV may be the reason that people are not attending the government hospital.

RECOMMENDATION

The use of traditional medicine for snake bite is a feature of most areas of the developing world, where venomous snakes are prevalent. Improvements in early referral and appropriate care will only occur when traditional healers are integrated into Primary Health Care and hospital based health system.

It is recommended that ASV should be made available in the public as well as private sector clinics/hospitals particularly in the rural areas where snake bites are prevalent.

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