

## Original Research Article

# A KAP study on snake bite among the rural population in Tirunelveli district

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**Received:** 08 March 2018

**Accepted:** 27 March 2018

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## ABSTRACT

**Background:** India has 236 species of snakes of which 13 species are poisonous. Most of the Indian population are in rural area and they are poorly informed about the snake bite. They waste their vital time by reporting to traditional healers and taking inappropriate first aid. So the present study is done to determine the knowledge, attitude and practice on snake bite among the rural population of Tirunelveli district.

**Methods:** A cross-sectional study was done in rural area of Tirunelveli district. 200 adults were included in our study. Data on knowledge, attitude and practice were collected by the trained personnel using a predesigned structured questionnaire for the period of three months from June 2017 to August 2017.

**Results:** 60.5% of the study population can't identify the snake. 54% of them had knowledge on availability of ASV. 62% of study subjects had no knowledge on complications of snake bite. It was also found that most of them had practice of tying tourniquet above the site of bite, sucking blood from the site, washing with soap and water. 62.5% preferred hospital treatment for snake bite only 12% preferred traditional practices and 59.5% believed that ASV is effective.

**Conclusions:** Knowledge on identification of snake and on ASV is low and still some people follow harmful practices like taking to traditional healers and applying native medicine so steps must be taken to improve their knowledge and to prevent harmful practices.

**Keywords:** Snake bite, Knowledge, Attitude, Practice, ASV

## INTRODUCTION

Snake bite is considered as one of the significant health related problem throughout the world. Globally it is estimated that annually there are 5.4 million venomous snake bites and out of that 2.5 million bites are envenoming resulting in 1,25,000 deaths.<sup>1</sup>

According to WHO snake bite is an important medical problem but it is also a neglected extrinsic injury in tropical and subtropical developing countries.<sup>2,3</sup> South Asia, southeast Asia, Sub-Saharan Africa, and Latin

America, are most affected regions in the world.<sup>3,4</sup> Adult males belonging to the occupation like farmers, plantation workers, herdsmen, and other outdoor workers who has little knowledge of snakes were frequently bitten by snakes but high risk group who were in regular contact with snakes because of their adequate knowledge about the snake and their habits were less bitten.<sup>5-7</sup>

India has 236 species of snakes of which 13 species are poisonous; among those 13 species cobra, Russell's viper, saw-scaled viper and common krait are highly venomous and cause most of the bites in India.<sup>8</sup> WHO has

estimated that every year there are 83,000 snake bites and 11,000 deaths due to snake bite in India.<sup>9</sup>

Most of the Indian population are in rural area and they are poorly informed about the snake bite. They waste their vital time by reporting to traditional healers and taking inappropriate first aid instead of shifting the patient to the hospital. Those practices are both ineffective and harmful aggravating the condition.

In spite of the huge magnitude of the problem there are only few community based studies to assess the knowledge about the snake bite in the rural population so the present study is conducted with the objective.

### Objective

1. To determine the knowledge, attitude and practice on snake bite among the rural population in Tirunelveli district.

### METHODS

A cross sectional study was conducted in the rural population of Tirunelveli district, South India. 300 households from rural field practice area were selected randomly through simple random sampling and adults willing to participate in each household were included in our study. Totally 200 adults were included in our study. Data were collected using a predesigned structured questionnaire. The initial part of the questionnaire was

framed to assess the knowledge of the people on ASV and complications of snake bite. The second part of the questionnaire was framed to retrieve the various practices followed by them and the final part contains the questions to assess the attitude of the subjects towards the treatment for snake bite. Data were collected by the trained personnel for the period of three months from June 2017 to August 2017.

Data were analyzed through SPSS software package and descriptive statistics was used to find out the frequencies and percentages.

### RESULTS

Out of the 200 study population most of them belonged to the age group 30-39 years and most of them were males. 29.5% has completed the high school and 12% of them were illiterates. 50.5% of study population were living within 2kms from the health care centre and 44.5% were living within 6-8 kms from the health centre. Majority i.e. 60.5% of them can't identify the snake. 54% of them had knowledge on availability of ASV. 62% of study subjects had no knowledge on complications of snake bite. It was also found that most of them had practice of tying tourniquet above the site of bite, sucking blood from the site, washing with soap and water. 172 of the study subjects had the practice of immediately taking the victim to the hospital. Attitude was also accessed and it was found that 62.5% preferred hospital treatment and 59.5% believed that ASV is effective.

**Table 1: Distribution of the age and the sex of the study population (n=200).**

Age (in years)	Gender		Frequency	Percentage (%)
	Male	Female		
20-29	35	6	41	20.5
30-39	45	44	89	49.5
40-49	23	7	30	15
50-59	17	0	17	8.5
≥60	7	0	7	6.5
Total	107	93	200	100

**Table 2: Knowledge of the respondents regarding snake bite (n=200).**

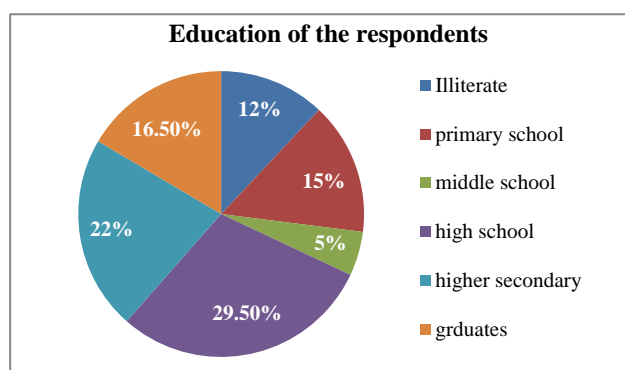
Identification of the snake	Can identify (N)	Can't identify (N)	Total (%)
	79	121	200
Knowledge on ASV availability	Yes	No	
	108	92	200
Knowledge on complication of the snake bite	Yes	No	
	64	136	200

**Table 3: Distribution of the attitude of the respondents (n=200).**

Attitude				
Preference to hospital treatment	Hospital treatment	Traditional practices	No idea (%)	Total (%)
	62.5%	12%	25.5	100
Belief on ASV effectiveness	Effective	Not effective		
	59.5%	11.5%	29	100

**Table 4: Distribution of the practices followed by the respondents (n=200).**

S. no	Practices followed	Yes (N)	No (N)	Don't know (N)	Total (N)
1.	Incision at bite site	85	65	43	200
2	Tying a tourniquet above the site	139	35	26	200
3	Applying native medicines	51	41	108	200
4	Sucking blood from site	71	91	38	200
5	Allowing them to eat after bite	24	70	106	200
6	Allowing them to sleep	25	106	69	200
7	Killing the snakes	61	81	58	200
8	Own prescription	17	119	64	200
9	Washing with soap and water	68	61	71	200
10	Immobilization	75	30	95	200
11	Taking the affected person to hospital	172	28	0	200

**Figure 1: Educational status of study participants (n=200).**

## DISCUSSION

A study conducted on snake bite in Rural Loas by Keoudom et al found that 90% of the study population had knowledge to identify the snakes, which is comparatively high than our study in which only 39.5% of the respondents had the knowledge to identify the snakes.<sup>10</sup> In our study 62.5% preferred hospital treatment and only 12% preferred traditional practices and 59.5% believed that ASV is effective; but in the study conducted by Amphone et al only 52% preferred hospital treatment and only 10% believed in effectiveness of ASV.<sup>10</sup> In another study done by Silva et al among the farmers in Sri Lanka found out that 86.8% of them preferred hospital treatment and only 11.5% preferred traditional treatment.<sup>11</sup>

In another study conducted by Kumar et al in rural Bengal 85% of the study subjects had knowledge about ASV availability which was comparatively high than our study where only 54% know about the ASV availability in the hospitals.<sup>12</sup> In our study practices like tying tourniquet above the bite site (69.5%), applying native medicine (25.5%) was less prevalent than another study conducted by Amphone et al where it was 90% and 50% respectively.<sup>10</sup>

## CONCLUSION

Knowledge on identification of snake and on ASV is low and still some people follow harmful practices like taking to traditional healers and applying native medicine so steps must be taken to improve their knowledge and to prevent harmful practices so that victims could be taken to hospital immediately.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

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**Cite this article as:** Krishnaleela G, Selva Meena M, Praveena Daya A. A KAP study on snake bite among the rural population in Tirunelveli district. *Int J Community Med Public Health* 2018;5:1762-5.