

SNAKE BITES IN RURAL LAOS: A NEGLECTED PROBLEM

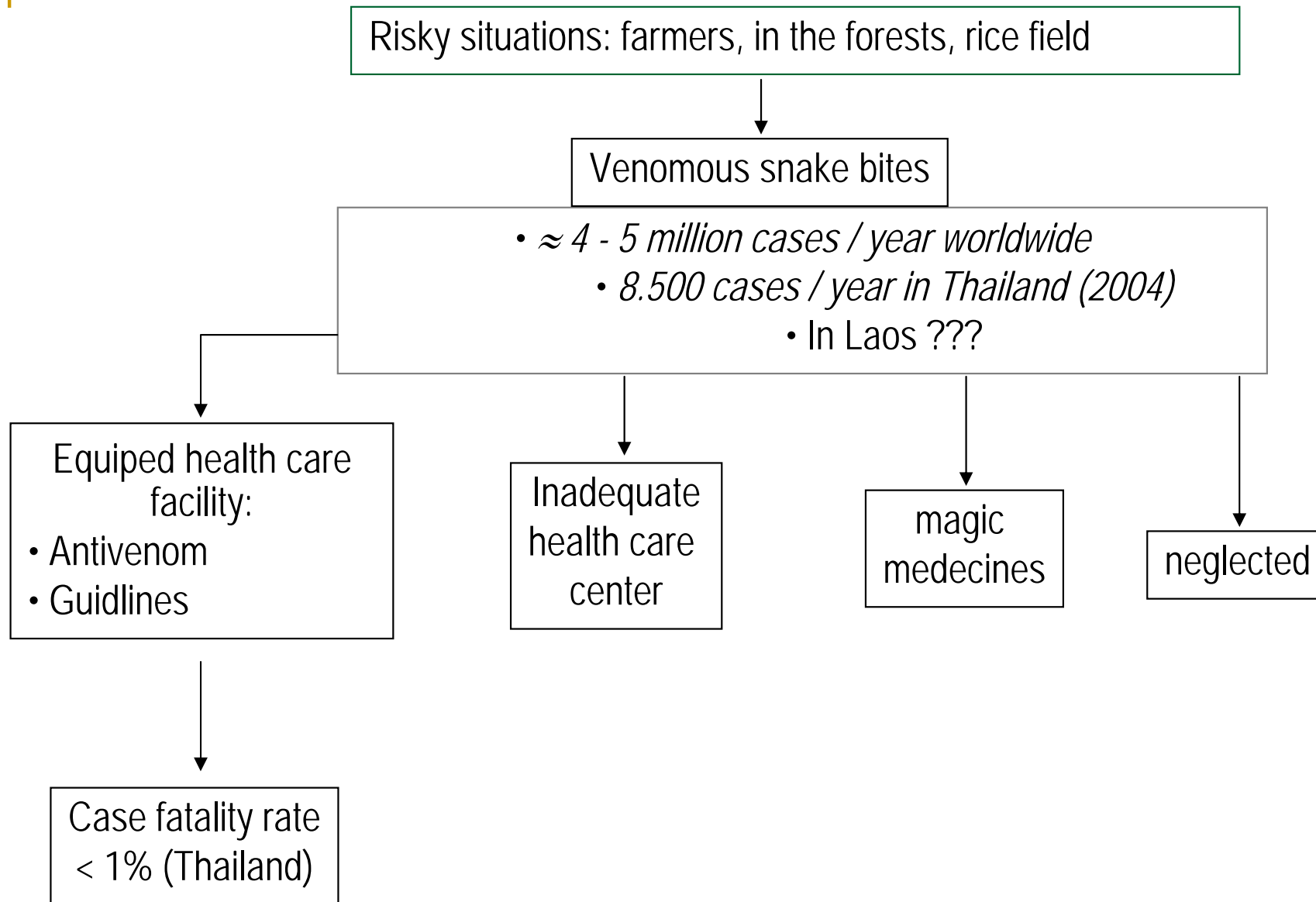
Dr. Amphone KEOUDOM

Pr. Michel STROBEL

OUTLINE

- INTRODUCTION
- OBJECTIVES
- MATERIALS ET METHODS
- RESULTS
- DISCUSSION
- CONCLUSION
- RECOMMENDATIONS

INTRODUCTION



Guidelines available in SEA: 1999 Warrell, 2005 WHO

Amphone_IFMT 14.10.2008

OBJECTIVES

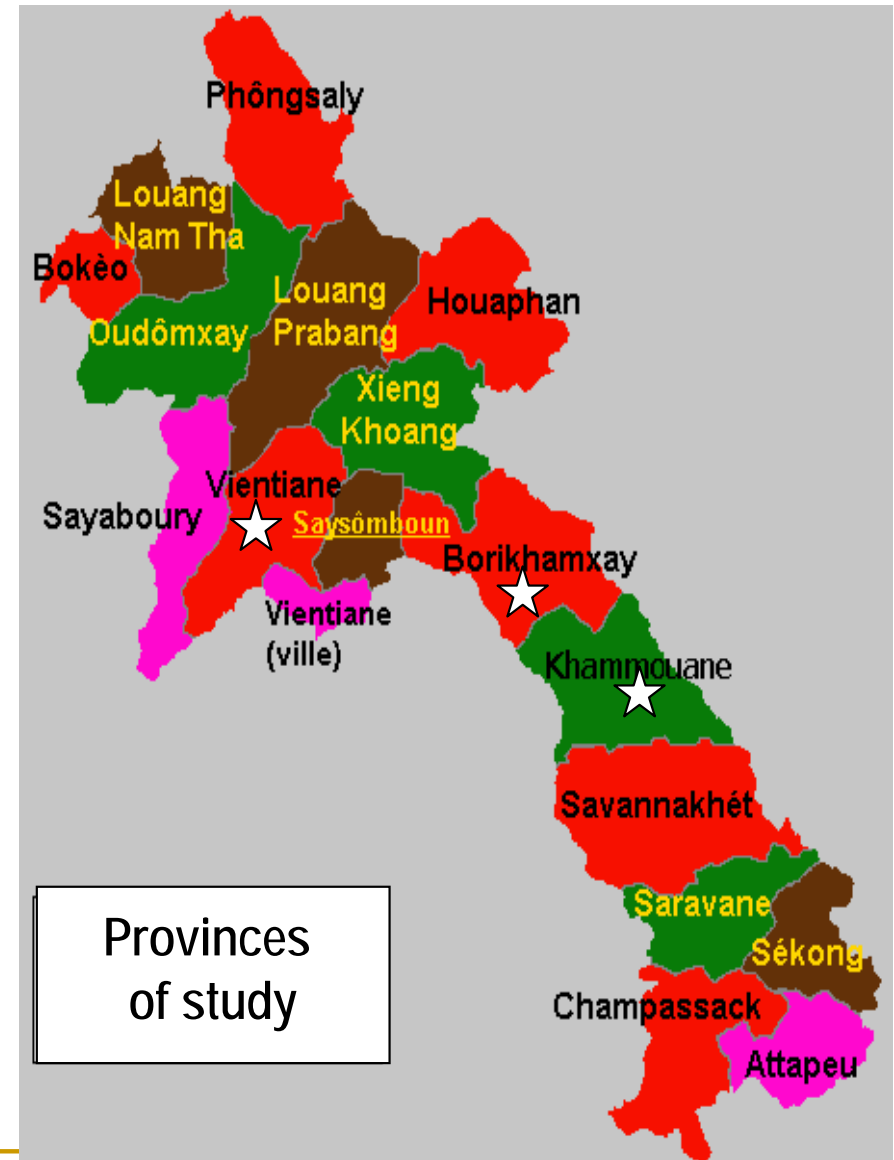
KNOWLEDGE, ATTITUDES, PRACTICES (KAP) about snake bites



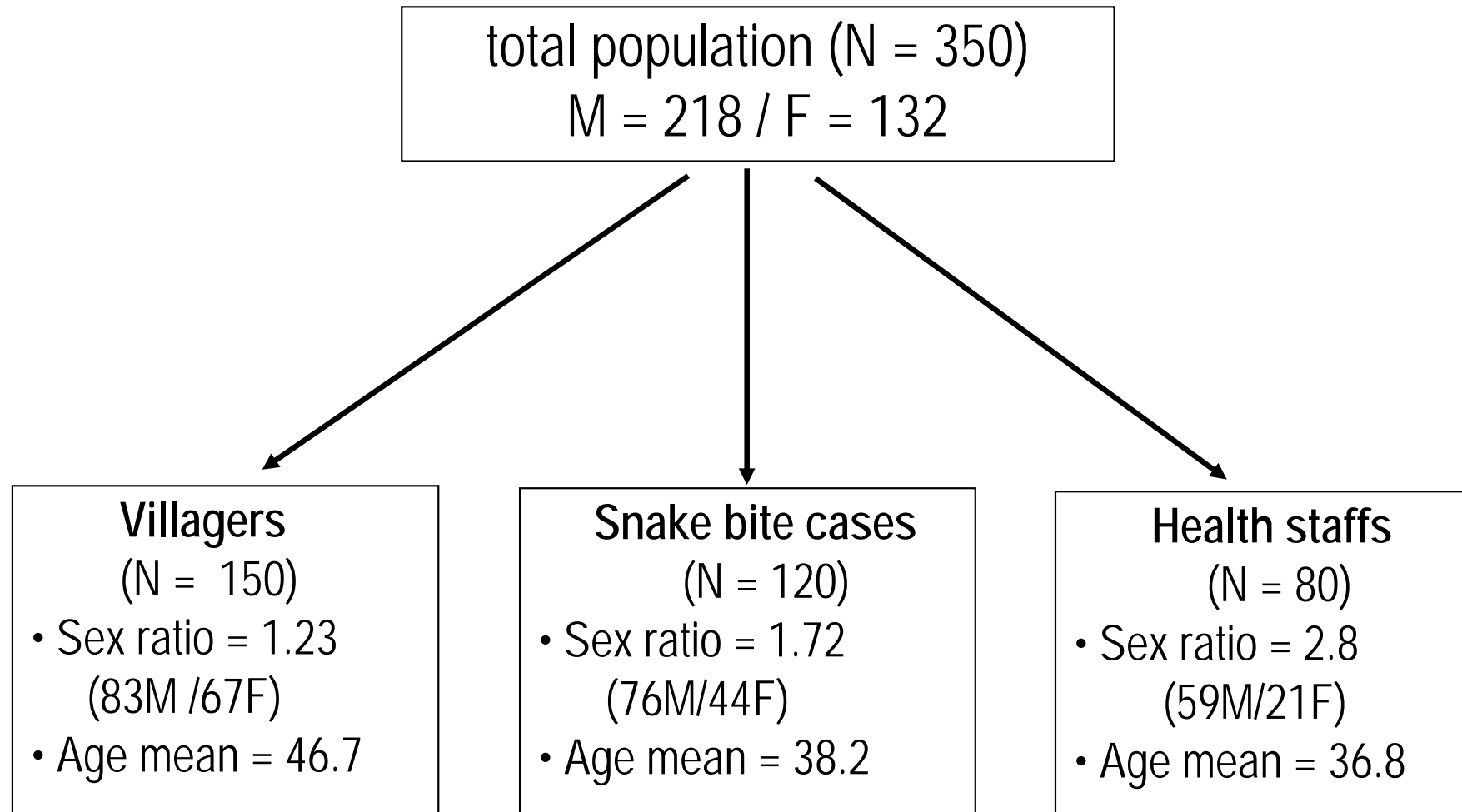
- To establish the knowledge of the situation in Laos
- To settle a base for training health staffs through guidelines dissemination
- To improve medical management
- To reduce morbidity and mortality from snake bites in Laos

MATERIALS & METHODS

- KAP study
- From March to July 2008
- Population :
 - villagers: >15-y,
 - Health staff
 - people bitten by snakes
(snake bite cases)
- Questionnaires tested & validated
- Ethical clearance from central and local authorities
- Data analyses: Epi-data & STATA

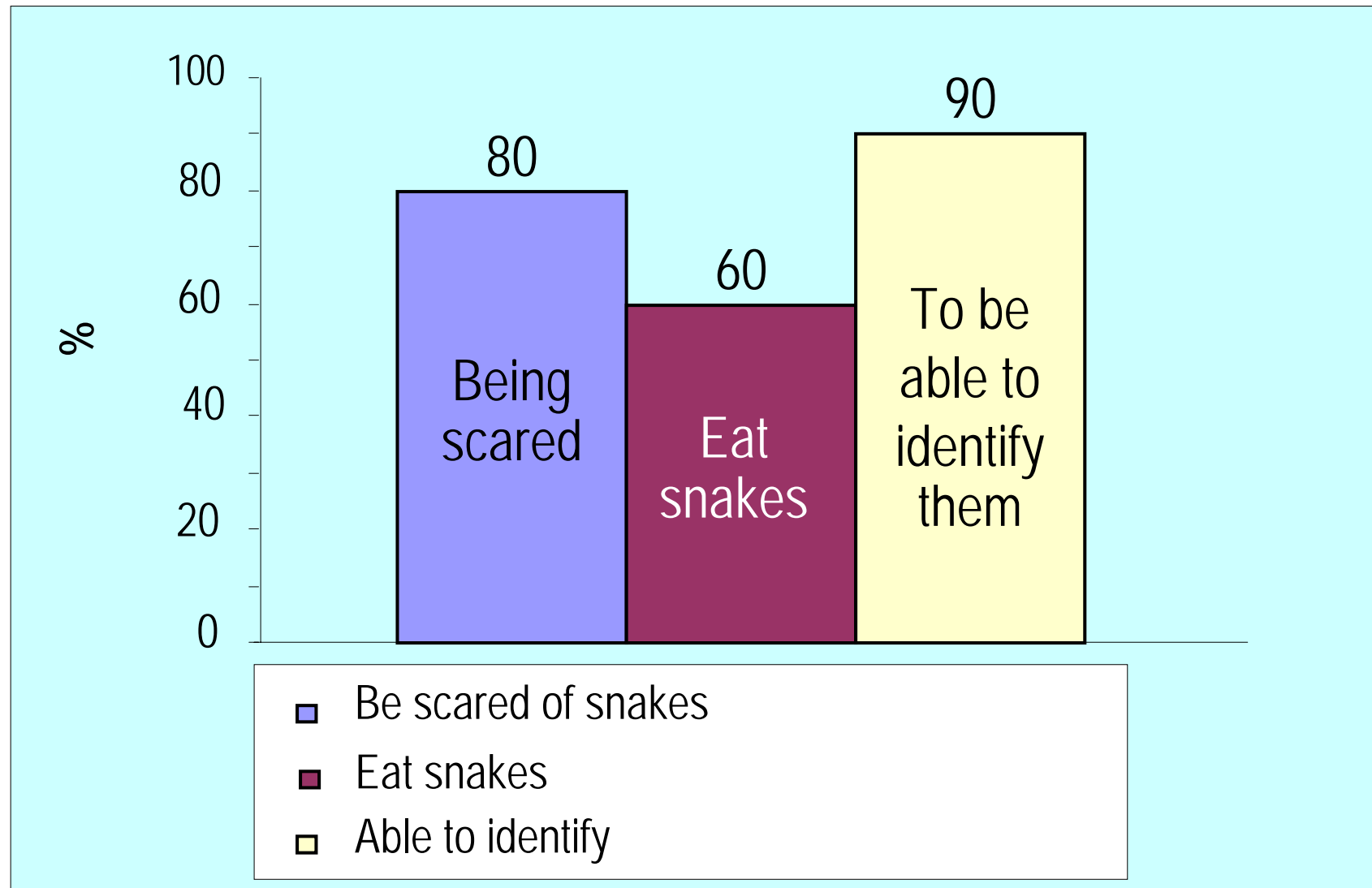


RESULTS



150 villagers

General attitudes toward snakes ?



150 villagers

Practice :

	N=146 (%)	Relevance
Tourniquet	132 (90)	No
Medicinal herbs on the wound	86 (59)	No
Taboo: not get inside the house	27 (18)	No
Suck blood from wound	23 (16)	No
Use the snake for treatment	21 (14)	No
Magic : to blow on the wound	15 (10)	No
To apply ants on the wound	15 (10)	No
Provoke wound bleeding	10 (7)	No

150 villagers

Practice : where to be treated ?

	N = 146 (%)	Relevance
Traditonal healer	125 (86)	No
Hospital in thailand	19 (13)	Yes
At home with herbal medicine	10 (7)	No
Hospital in Vientiane	7 (5)	Yes
Temple, monks	4 (3)	No
District hospital	3 (2)	No

120 victims

Which snake is frequently recognised ?

Malayan Viper 53%

Russel Viper 22%

Cobra 9 %

Green pit Viper 9%

King Cobra 4%

Banded Krait 3%



120 victims

First aid given to the victims ?

	N=120 (%)	Relevance
Tourniquet	75 (62,5)	No
Nothing	28 (23)	No
Medicinal plants applied on the wound	26 (22)	No
Nothing special but evacuation & transport decisions	19 (16)	Yes
To eat the snake's distal end (tail)	9 (7,5)	No
Immobilization of the bitten limb	2 (2)	Yes

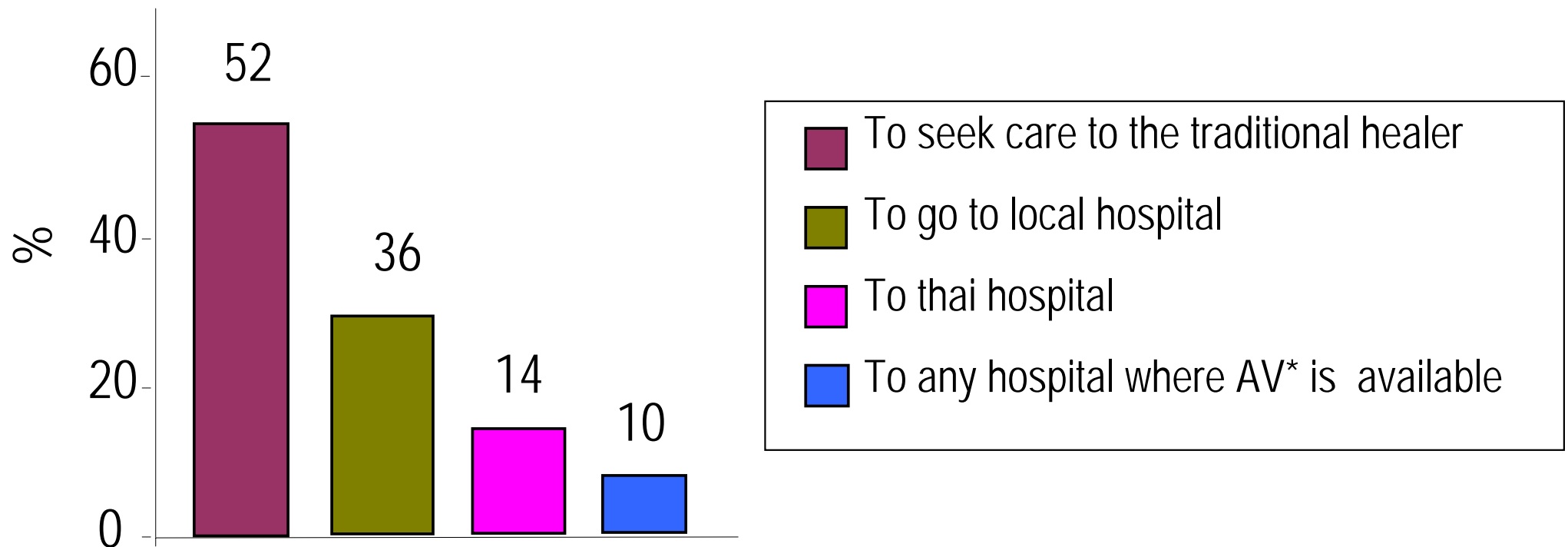
120 victims

Evolution after snake bites ?

	%
Death	37
Complication	44
Amputation	6
Sequels	39
• Stiffness, atrophy	16
• Chronic wound	13
Access to antivenom	22.5

120 victims

Attitude, advices for victims ?



*AV Antienvenous

120 victims

Means of convey to hospital ?

	N	%
By foot	45	56
With the snake	22	27
Intervention before arrival		
• None	3	3
• Immobilization	5	6
• Harmful treatment	64	80
• Tourniquet	71	89

Mean delay to hospital arrival after snake bites: **22.4 ± 45** hours

80 health staff

Knowledge about the victims and death ?

	Median
Mean anual cases seen in your hospital	6.1 cases (0-30)
Cases you are aware of in your area 1	9.3 cases (0-100)
Anual deaths in your hospital	<1 death
Anual deaths in your area	1.07 death (± 1.66)
Where do victims die ?	76% of death not in hospital

80 health staff

symptoms / signs of snake bites (own experience of staff)

	n=80	%
Unable to give any answer	19	24
Unable to recognize severity signs	28	35
LOCAL SIGNS	(n=61)	
Oedema	55	90
Pain	50	82
Necrosis	29	47
Blistering	11	18
Ecchymose	6	10
GENERAL SYMPTOMS	(n=61)	
Haemorrhagic syndrome	35	57
Dyspnea	20	33
Respiratory failure	9	15
Visual impairment, diplopia	6	10
Shock	3	5
Paralysis	2	2.5

Skills of health staff at hospital with snake bites

	N	%
Do you feel to have appropriate skills	69 *	86
Any skilled staff at the hospital	65*	91
Are you able to identify the snakes	59*	74
Are you able to assess coagulation disorder	54*	83
Any resuscitator in your hospital	74 *	92.5
Ventilation available in your hospital	63*	79
Any AVS in your hospital	70*	87.5
Do you know where to transfer victims for AV	70**	87
Have you already transferred any patients	29**	36
In Thailand	17	59
Central Hospital	12	41

80 health staff

In case of snake bite, where would you seek treatment ?

	N(%)	Pertinence
Laos hospital	61(76)	?
Thai hospital	21(26)	Yes
Traditional medical	19(24)	NO

DISCUSSION (1)

- Frequency of snake bites looks high :
 - *120 cases easily identified*
 - *127 people know somebody being bitten by a snake*
 - *104 people know someone who died from snake bite*
- From what do snake bite victims die ?
 - in Laos it's hard to say : few cases reach the hospital...
 - in Thailand : respiratory failure (26%), shock (12%), cerebral haemorrhage (9%), wound complication (7%), kidney failure (2%)
 - contributing factors : wrong AV, inadequate dosage, assisted ventilation problems, late arrival at hospital

DISCUSSION (2)

- Identifying the snake species is not easy :
 - *population often mixes venomous and non venomous species*
 - *Most frequent species identified in our series are viperidae, the Malayan pit viper (Calloselama rhodostoma) ranking 1*
- Beliefs at traditional and magic practices are deeply rooted
- First aid gestures are generally inadequate and harmful (tourniquet, incisions..)
- Limb immobilization, easy and helpful is ignored
- Most of interviewed people would still seek treatment to the traditional healer
- The traditional healer often refuses to manage severe cases (*personal experience*)
- Lao hospitals are not prepared, neither equipped and staffed to manage snake bites in a modern & rational way

DISCUSSION (3)

- STUDY LIMITATIONS

- Quantity of information took over representatively
- Bias linked to memory, reliability, and traditional beliefs
- General knowledge about snake bites is among in all three population groups

- WHAT THIS STUDY ADDS :

- Firs study ever conducted in Laos on snake bites and envenomation

CONCLUSION

- Snake bites are frequent in rural Laos
- Case fatality rate seems high in the villages, and quasi nil at hospitals; an accurate estimation can presently not be drawn
- What is lacking in Laos, in most if not all hospitals :
equipment including antivenoms, training and guidelines
- Villagers seem more capable of identifying snakes than health staff *Malayan Viper* is n°1
- First aid procedures are inadequate

RECOMENDATIONS

1. Sensitise rural population for better protection and more relevant practices in case of snake bite.
2. Inform the villagers that modern treatment facilities are only available at Vientiane provincial hospital and at Thai hospitals.
3. Train the doctors and staff on managing the patient in the emergency room
4. Should traditional healers be trained (?)
5. Disseminate guidelines all over the country
6. Antivenom should be made available in referral hospitals and in settings at high risk
7. Why not set up a national reference centre for poisoning ?

THANK YOU

