



Knowledge, attitude and practice on role of stray dog in rabies control and dog population estimation, Chiang Rak Noi sub-district, Ayutthaya province

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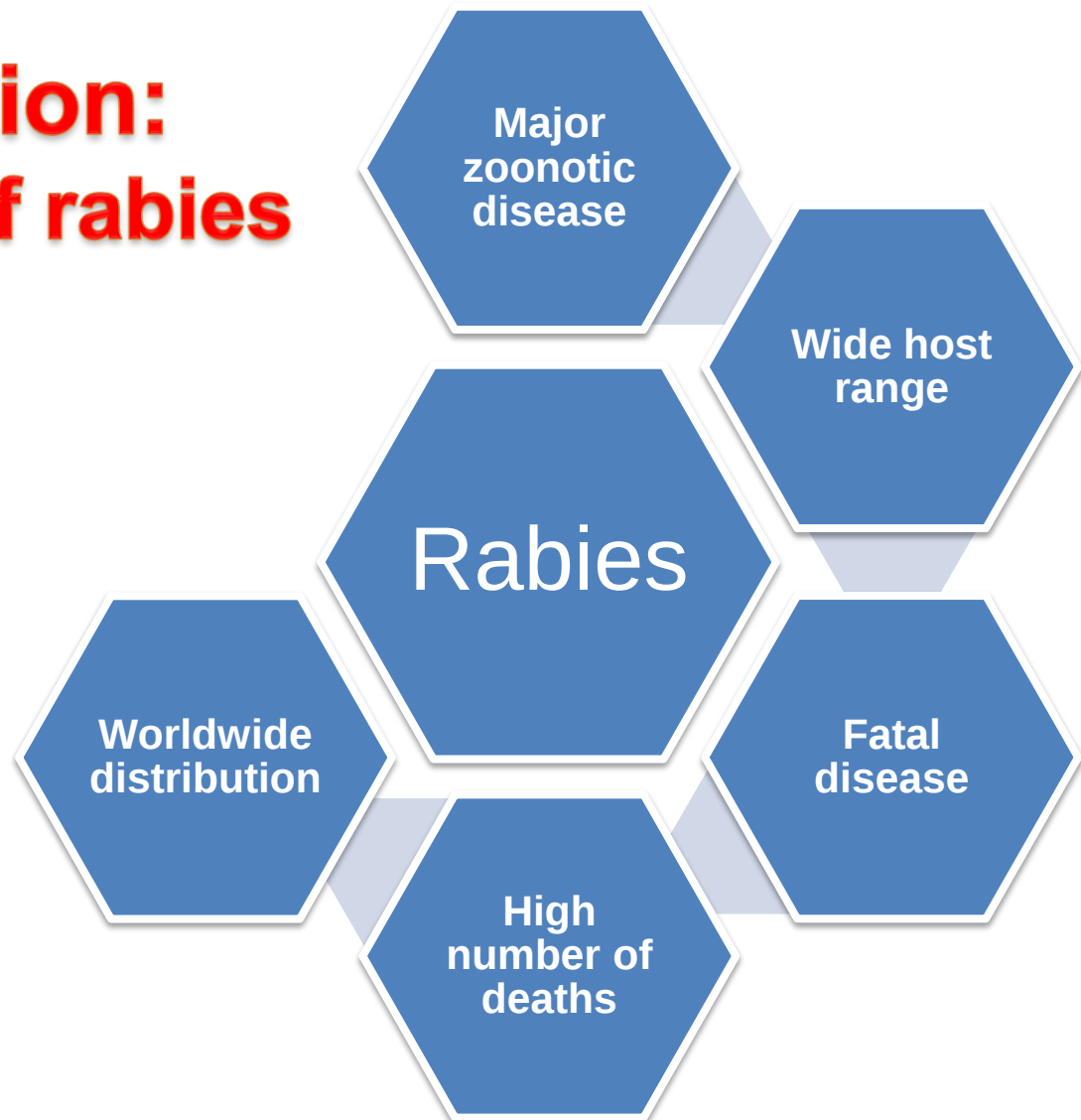


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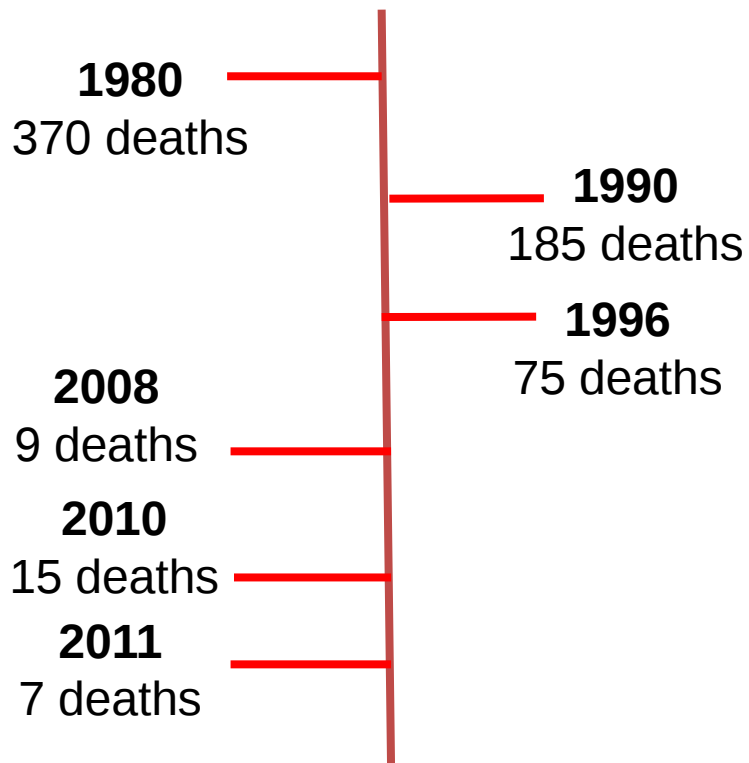


Introduction: Importance of rabies



Introduction:

Situation of rabies in Thailand



Time line of human rabies cases
(Tenzin and Ward, 2012)

- Cases of human and animal rabies have been decreased from the past
- From year 2000 – 2012
 - Dogs (90.1%) are main reservoir in Thailand
- In 2016; 11 people died from rabies and 14 people died across 13 provinces in 2017.



Introduction:

Situation of rabies in Thailand



Retrieved from newspaper
<https://www.matichon.co.th/news>

- Update data in 2016 was reported that total of dog population was 7,380,810 (Bureau of Disease Control and Veterinary Service, 2016).
- Estimation owned dog and stray dog were 6,000,000 and 1,000,000 respectively (Veera Tepsumethanon, 2016).



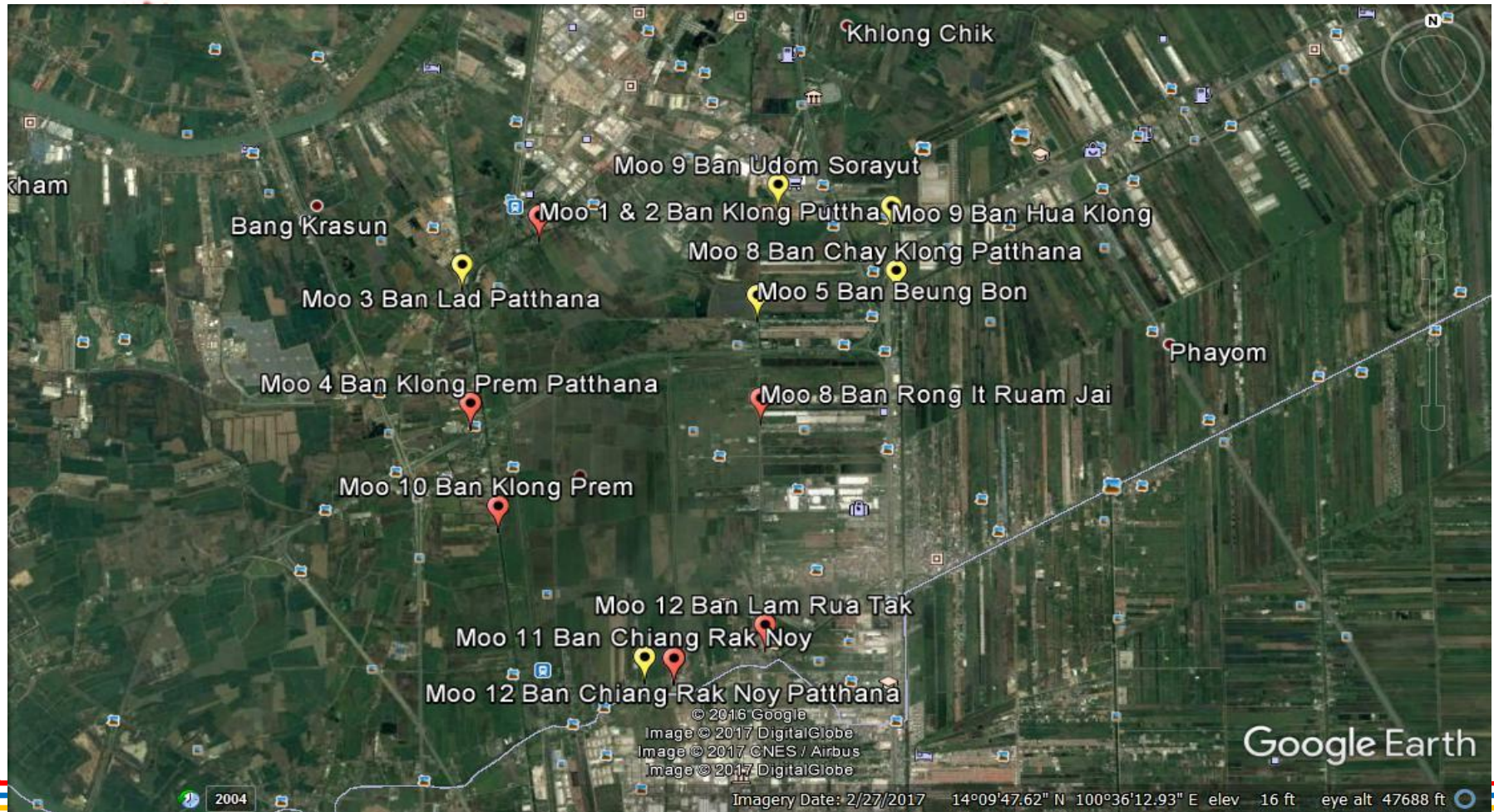
Objectives

- There are two purposes as following
 1. To evaluate rabies perception of Chiang Rak Noi community in term of knowledge, attitude and practices of people who share the community with stray dogs.
 2. To estimate dog population using photographic capture-recapture technique compare with direct count.



Materials & Methods

- **Study area:** Bang Pa-In district, Chaing Rak Noi sub-district, Ayutthaya province



Materials & Methods

Participatory epidemiology

- 1 group of volunteer (4-8 persons) per village
- 13 villages
- 18 – 26th May 2017

Questionnaires

- 414 individuals
- 13 villages
- Convenience sampling
- July – August 2017

Dog estimation

- Direct count during vaccination campaign on April, 2017
- Photographic capture-recapture on 31th July to 3rd August
- 1 village

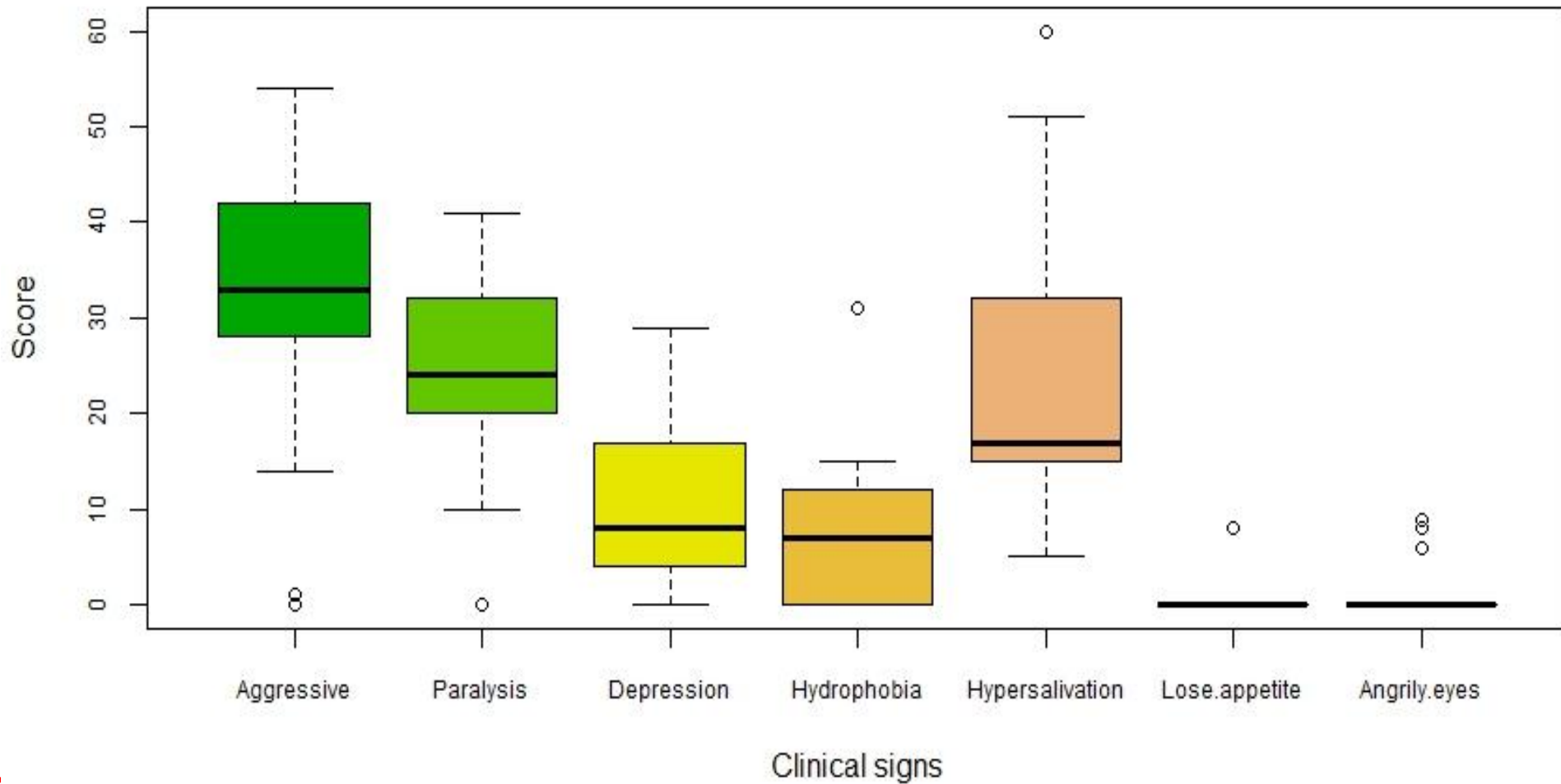


Results of participatory epidemiology

Topics	Details
Introduction	• The range of stray dog was 0 to 30. • Most of owned dogs were left outdoor. • Vaccination coverage was 80 to 100% in owned dogs but vaccination did not cover all stray dogs.
Knowledge	• Host: All groups answered right. Nine villages answered mammals and dog was the answer in all villages. • Route of transmission: biting was the main route. Some misunderstanding; vertical transmission, contaminated food. • Clinical signs: aggressive, paralysis and hypersalivation were popular answers according to high median score.



Results of participatory epidemiology



Results of participatory epidemiology

Rank	Problems	V01	V02	V03	V04	V05	V06	V07	V08	V09	V10	V11	V12	V13
1	Support the road accident	11	0	0	0	0	46	0	0	73	58	9	0	31
2	Make an area dirty	0	10	0	18	18	29	38	0	0	15	0	34	32
3	Make an annoying	36	10	0	17	5	16	0	0	0	2	13	66	16
4	Make a fear	0	0	0	0	0	0	62	100	0	0	0	0	0
5	Bite human and dogs	23	80	0	7	6	0	0	0	27	14	0	0	0
6	Increase dog population	30	0	0	28	34	9	0	0	0	0	15	0	0

W^a = 0.33, P<0.01

Results of questionnaires

Variable	Frequency (N = 414)	Percentage
<u>Gender</u>		
Male	113	27.3
Female	301	72.7
<u>Age (median = 53)</u>		
18-40	67	16.18
41-63	284	68.6
> 63	63	15.22
<u>Educational level</u>		
Primary school	167	40.34
Junior high school	102	24.64
Senior high school/vocational certificate	69	16.67
High vocational certificate	23	5.56
Bachelor's degree or higher	52	12.56
Others (no background)	1	0.24
<u>Career</u>		
Farmer	20	4.83
Seller	100	24.15
Employee	117	28.26
Government officer	58	14.01
Student	6	1.45
Others (housewife, private business, have no work)	113	27.29
<u>Involved authority</u>		
Volunteers	139	33.57
Villagers	275	66.43
<u>Rise dog</u>		
Yes	238	57.49
No	176	42.51

Results of questionnaires

Question (n = 414)	Right answer	Wrong answer
1. Rabies is a zoonotic disease	359 (86.71%)	55 (13.29%)
2. Only dog transmit rabies to human	297 (71.74%)	117 (28.26%)
3. Rabid dog was found only in summer season	189 (45.65%)	225 (54.35%)
4. Rabid dog will show nervous signs such as paralysis, inability to swallow, profuse salivation	392 (94.69%)	22 (5.31%)
5. Some rabid dogs show aggressive behaviors and some of them show dump signs	400 (96.62%)	14 (3.38%)
6. Route of rabies transmission between dog and human includes human was bitten or licked by infected dog	400 (96.62%)	14 (3.38%)
7. After you were bitten by dog, you should immediately clean the wound with running water and soap	401 (96.86%)	13 (3.14%)
8. In current, we can treat rabid dog	206 (49.76%)	208 (50.24%)
9. Human rabies is a high severity since human died from this disease	397 (95.89%)	17 (4.11%)
10. Incubation period of human rabies can be as few days to year	270 (65.22%)	144 (34.78%)
11. Dog should start vaccination at 2-4 month and boost vaccine every 1 year	390 (94.20%)	24 (5.80%)
12. Human should do post-exposure vaccination only one time after dog bit	318 (76.81%)	96 (23.19%)



Results of questionnaires

■ Attitude

- Median score in almost all questions was 5 (completely agree) except the awareness on risk of rabies in daily life had lower score.
- Stray dogs were a cause of rabies outbreak (92.51%).
- 38.41% answered immigrants were main group abandoned stray dog in villages follow by the owner (25.6%) and construction camp (18.6%).



Results of questionnaires

■ Attitude

- Problems of stray dogs in villages were biting people and other dogs (37.2%), dirty (27.29%) and cause car accidents (26.09%).
- The choices for stray dog control, they prefer to keep those dogs in the shelter (34.62%) and would want authorities to euthanize stray dogs (25.67%).



Result

■ Practices

- **Owner perspective**
 - 43.28% of participants always leave their dog outside. They sometimes leave dog outside (17.65%). Only 39.09% always keep their dog inside the fence.
 - They provided rabies vaccination (95.38%) because of free vaccine which was supported by the municipality.
 - 63.45% of dogs in this community were neutered by ovariohysterectomy or contraceptive injection.
- **Post-exposure**
 - Five villagers (1.21%) were bitten by owned dogs. They got post-exposure vaccination after initially cleaned the wound with water and soap.



Results of dog estimation

- Direct count found 50 dogs in this area.
- The dog estimation number using photographic capture-recapture was 97 (95%CI: 90-117).



Discussion & Conclusion

- In general, participants had basic knowledge but still had misunderstanding in some topics.
- Stray dog is a one problem in this sub-district which participants aware of rabies carried by them. Participants realized on severity of rabies and rabies control.
- Estimations of dog population were difference between two techniques may influence by time. The dog estimation by capture-recapture was conducted during early morning (7.00 – 10.00) and early evening (17.00 – 21.00) according greatest dog activities (Font, 1987). Whereas, direct count was conducted in day time (10.00 – 16.30) during vaccination campaign.
- Volunteers will be an effective part of collaborative efforts which encourage on rabies elimination in this community in the future.



Thank you for your attention

