



Phramongkutklo College of Medicine Phramongkutklo Hospital

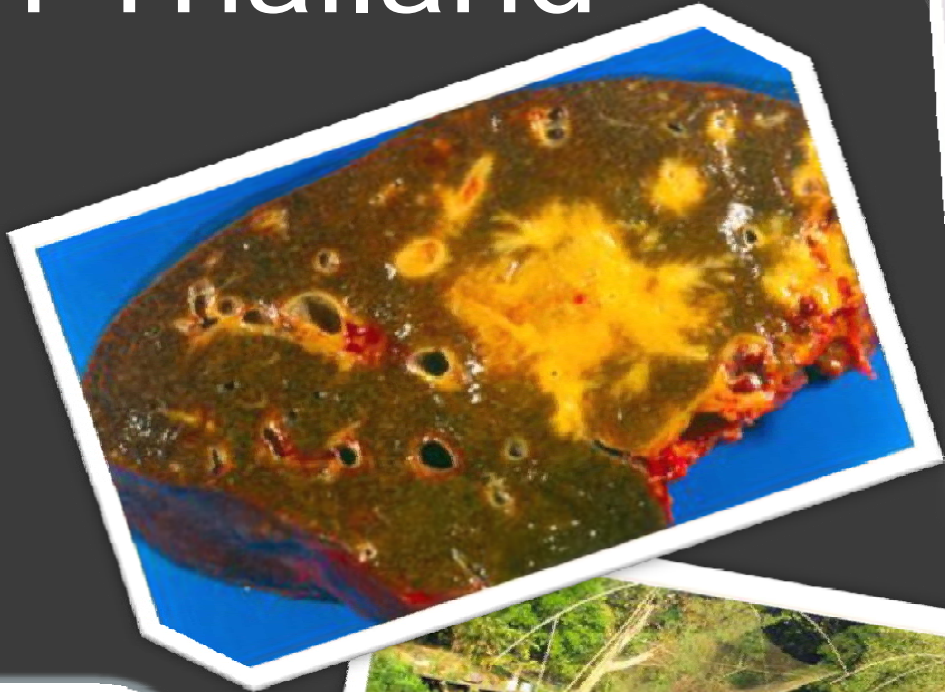


**A Follow-up Study of *Opisthorchis viverrini* Infection
after the 10-year Implementation of Control Program
in Baan Nayao, Chachoengsao, Central Thailand**



**5th Year Medical Student
12 December 2013**

OV infection in Thailand



Introduction

OV infection

Cholangio carcinoma

Prevention and control

- Case diagnosis and treatment
- Health education and promotion for consumption of cooked fish
- Promotion of using toilet

In 2002

Incidence rate: 21.6/100 person-years

Prevalence: 21.3%

(Rangsin, 2009)

In 2007

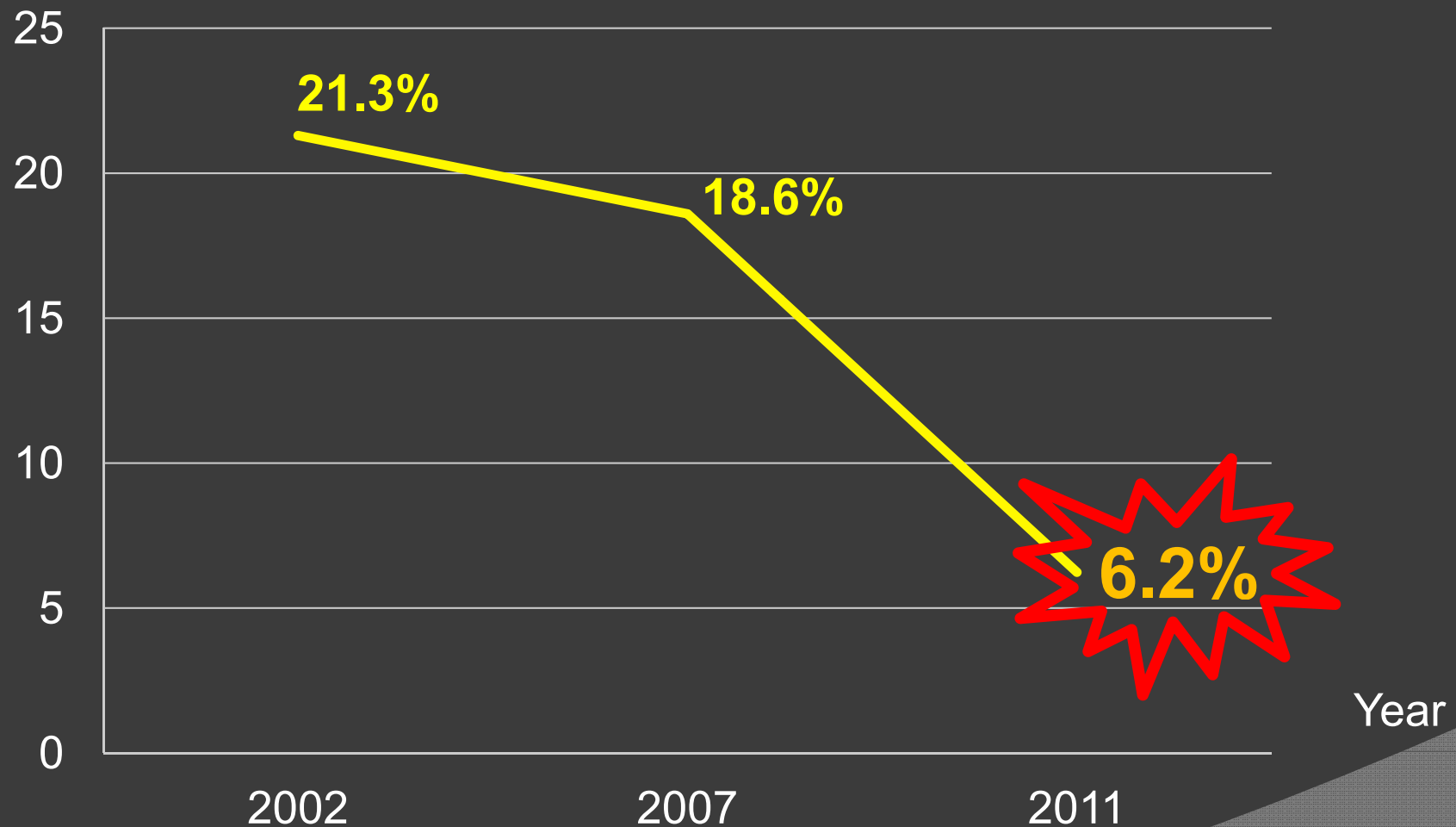
Incidence: 21.4/100 person-years

Prevalence: 18.6%

(Suwanhitathorn, 2013)

Prevalence of OV infection in Baan Nayao during 2002-2011

Prevalance



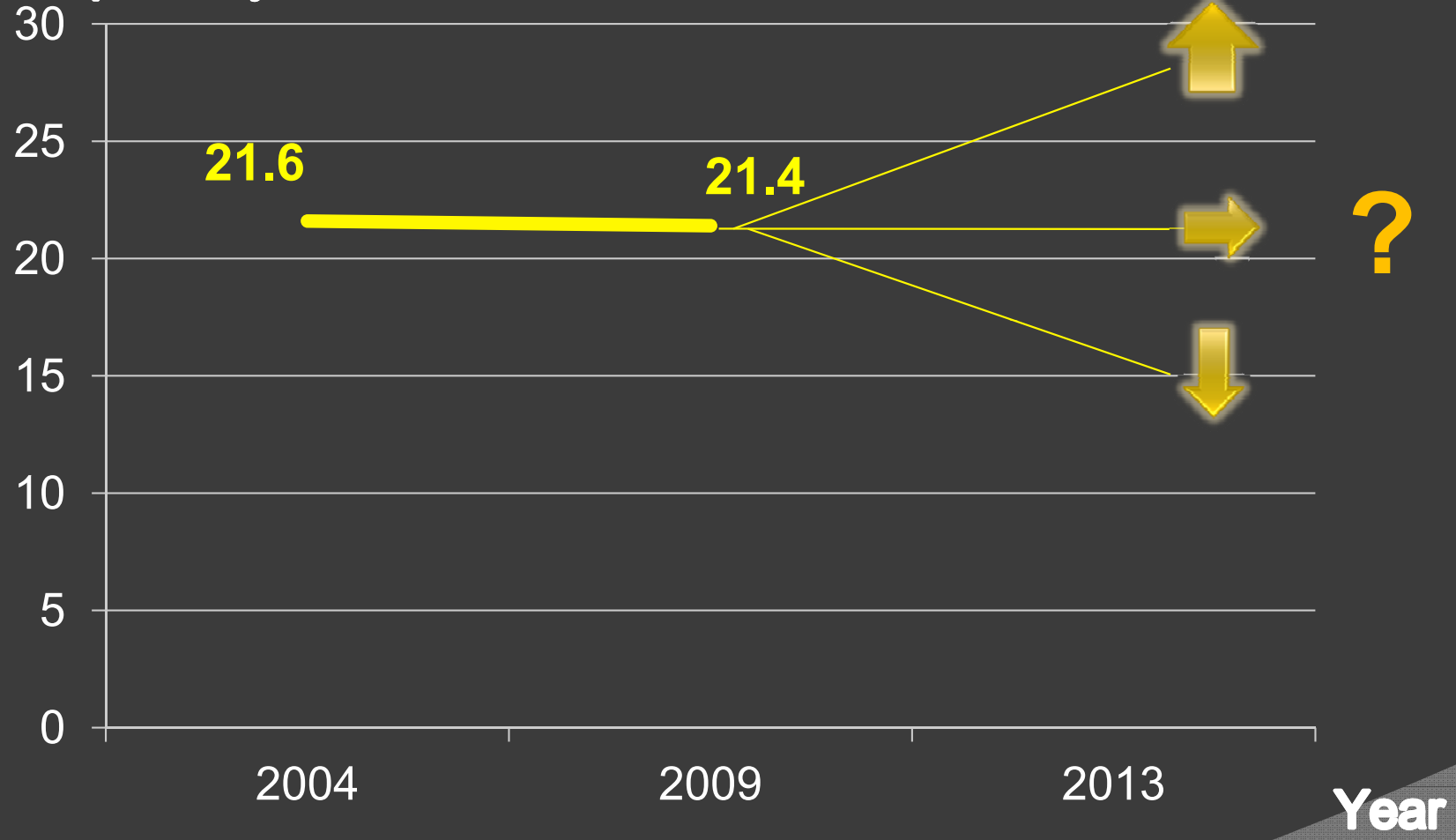
Rangsin , 2009

Suwanhitathorn, 2013

Our study

Incidence rate of OV infection in Baan Nayao during 2004-2009

per 100 person-year



Rangsin , 2009

Suwanhitathorn, 2013

Our study

Objective

- To determine the incidence and risk factors of OV infection in Moo 15, Baan NaYao, Chachoengsao, 2011 after 10 years follow up

Materials and Methods

- ◎ **Study design:** Mixed method study
 - Quantitative study
 - Qualitative study
- ◎ **Population:** Villagers who were received negative finding of OV egg in stool specimen with a microscope, in 2011.

Quantitative study

September 2011

Negative case for OV infection 974 case

3 death cases died from...

2 cases → cancer
1 case → missing

Loss to follow up due to...

1.Moved out(292)	29.9 %
2.Dead(3)	0.4 %
3.Unable to contact (187)	19.2 %

Total (482) 49.5 %

Stool samples

Stool examination

Negative case 492 case
Response rate 50.5 %

Questionnaire

- Direct simple smear
- Kato thick technique
- Concentration technique

- Demographic data
- Health behavior and OV infection

Qualitative study

Age groups

- Secondary school
- 20-29 years old
- 30-49 years old
- 50-59 years old
- > 60 years old

Characteristic

Perceptions of transmission

Awareness

Perceptions of treatment and prevention

Perceptions of health education and promotion

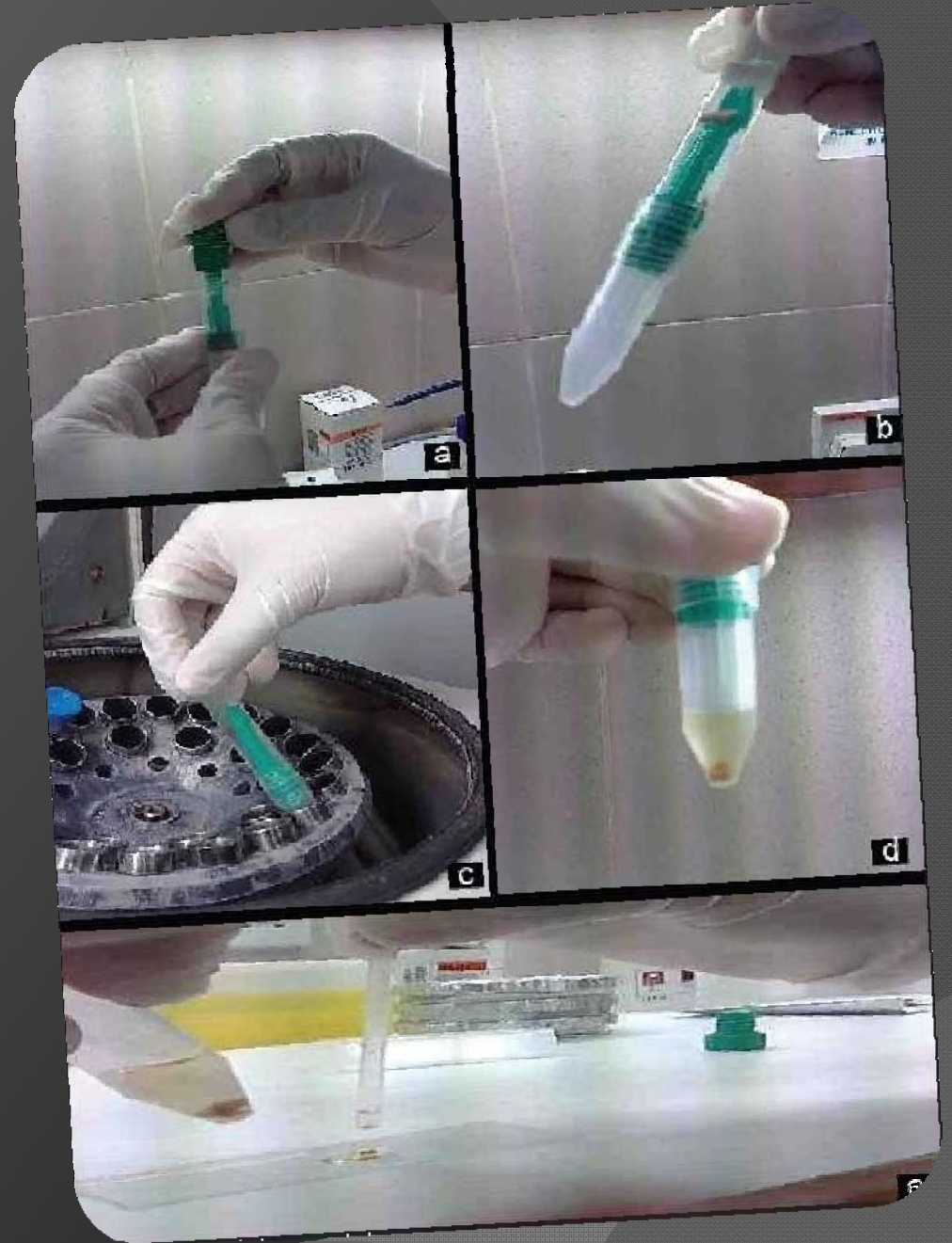
Recorded information

Text

Sorting & Coding

Content analysis
(Grounded Theory)

QUANTITATIVE RESULTS

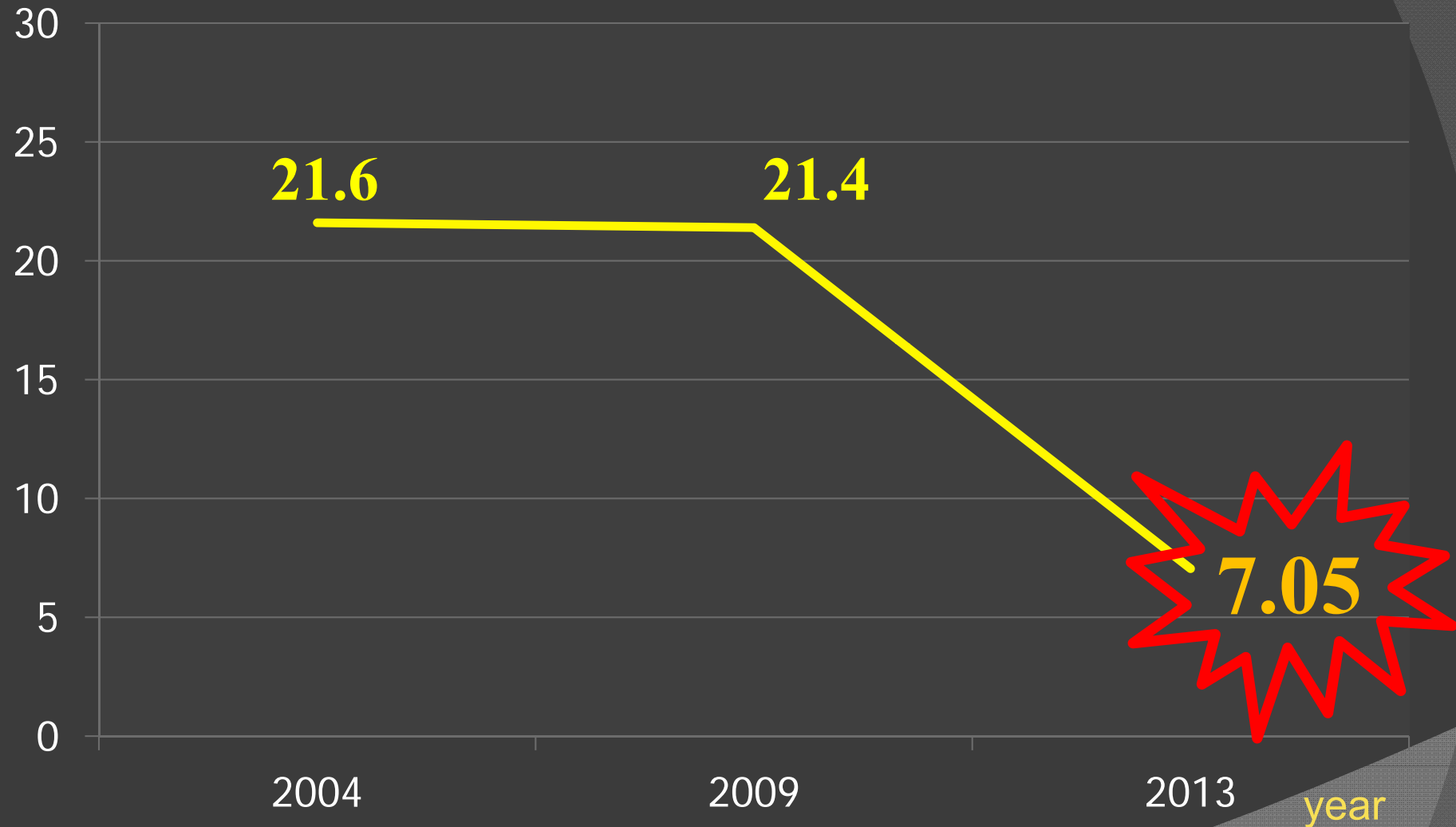


Demographic data (N = 492)

- Male 46%
- Primary school 66.7%
- Agriculture 63.7%
- Age range 1-85 years old
 - Mean 47.4 ± 18.9 years old

Incidence rate of OV infection in Baan Nayao during 2004-2013

per100 person-year



Rangsin, 2009

Suwanhitathorn, 2013

Our study

Factors associated OV infection among Baan Nayao villagers

Characteristic	No. infected	Person-years of follow-up	IR /100 person-years	Crude IRR (95% CI)	P	Adjusted IRR (95% CI)	P
Sex							
Female	19	238.8	7.9	1			
Male	21	205.0	10.2	1.2 (0.7-2.4)	0.420		
Age group (yrs.)							
0-19	4	55.0	7.2	1			
20-39	1	52.3	2.0	0.3 (0.3-2.4)	0.240		
40-59							
≥60							
Educational level							
Higher than primary school							
Primary school or below							
Family income (Thai Baht/year)							
>40000							
0-40000							
Fish menus							
Chopped raw fish salad (Koipla)							
No	12	235.0	5.1	1		1	
Yes	28	207.5	13.5	2.6 (1.4-5.1)	0.004	2.4 (1.1-4.9)	0.02
Raw fermented fish (Pla ra)							
No	12	140.0	8.6	1			
Yes	27	301.3	9.0	1.0 (0.5-2.1)	0.920		

Koi-pla Adjusted IRR

No 1

Yes 2.4

QUALITATIV E RESULTS



Reduced raw fish consumption

Part	
Situation of Raw Fish Consumption	<ul style="list-style-type: none"> - New - PCM's health promotion - Awareness of infection
Perception of Transmission	<ul style="list-style-type: none"> - Most villagers known how OV was transmitted.
Awareness of Infection	<ul style="list-style-type: none"> - Most and male
Perception of Treatment and Prevention	<ul style="list-style-type: none"> - Most of OV - Poss. ess.
Perception of Health Education and Promotion	<ul style="list-style-type: none"> - Health education and promotion were from PCM.

“They(young generation) never eat raw fish, they are used to eat fried
 “I know that eating raw fish such as Koi-pla and Larb pla can cause OV infection.”

“Fresh water fish(Cyprinoid fish) has parasites but I have never seen it before. And after receiving the treatment from Phramongkutklao's

“We used to see the parasites from doctor, then we were afraid to eat it.”

Discussion

- ◎ Reduction of incidence of OV infection
 - Health education
 - Promotion for consumption of cooked fish
 - Promotion of using toilet
- ◎ Awareness in health risk from eating koi-pla
- ◎ New generation preferred cooked food
- ◎ Raw fish consumption is an important risk factor for OV infection

Conclusion

- ◎ Incidence of OV infection decreased
 - Phramongkutklao's health promotion
 - Health education
 - Repeated stool examination
- ◎ Further action
 - OV knowledge for students and villagers

Recommendation

- ◎ Implementation
 - Ministry of Public Health
 - Standard knowledge of OV infection to basic education especially in Northeast and North.
- ◎ Targeted strategy is preferred
- ◎ So we should provide...
 - Education
 - Health promotion



Acknowledgements

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- All participants

Koi-Pla !!

