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**STUDY ON HELMINTHIC
LARVAE INFECTION IN FRESH
WATER FISH AND CRAB IN
SOME AREAS IN THE NORTH
OF VIETNAM**

Nguyen Van De MD., PhD. et al


Hanoi medical university-VIETNAM

INTRODUCTION

- Fish borne and crustacean borne trematode are major problem of public health and widely distributed in Vietnam.
- The small liver flukes as *Clonorchis/Opisthorchis* was found in more than 32 provinces with the infection rate varied from 0.2% to 40%.

INTRODUCTION....

- Small intestinal flukes in Families of Heterophyidae and Echinostomatidae are distributed in more than 18 provinces of the country, its highest is 53.4%.
- *Paragonimus* is distributed in more than 10 provinces, its highest is 15%

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- The habit of eating raw-food is very common in Vietnam, but no study on contamination of alive metacercaria in these food in Vietnam was carried out.
 - Therefore, an assessment of prevalence of fish borne helminthic infection in fresh water fishes and crustacean borne trematode in fresh water crab and assessment of alive metacercaria in raw-fish and baked-crab are needed

The habit of eating raw fish and eating baked-crab



Raw-fish





OBJECTIVES

- To determine fishborne trematode and *Gnathostoma spp* larvae in fresh water fish and *Paragonimus* metacercaria in fresh water crab in endemic areas in the North of Vietnam.
- To assess alive metacercaria in raw-fish dish and baked-crab dish



METHODOLOGY

- Fish and crab examination by digestion technique and
- assessment alive metacercaria by morphology method

RESULTS

The fishborne trematode infection in fish

Species of fish	In the endemic areas			In Hanoi markets		
	Number checking	Number (+)	% infection	Number checking	Number (+)	% infection
Silver carp	221	134	60.6	60	0	0
Grass carp	48	25	52.1	60	8	13.3
Mud carp	52	16	30.7	60	1	1.7
Common carp	48	12	25.0	60	2	3.3
<i>Carassius</i>	50	10	20.0	60	13	21.7
Tilapia	30	6	20.0	60	1	1.7
Snake-head fish	20	1	5.0	60	2	3.3
Total	469	204	43.5	420	27	6.4

The *Gnathostoma* larvae infection in snake-head fish and eel

Species of fish	In the endemic areas			In Hanoi market		
	Number checking	Number (+)	% infection	Number checking	Number (+)	% infection
Snake-head fish	50	4	8.0	81	1	1.2
Eel	50	3	6.0	95	8	8.4
Total	100	7	7.0	176	9	5.1

The *Paragonimus* metacercaria infection in crab

Study site	Crab examination for <i>Potamiscus spp.</i>			Crab examination for <i>Parathelphusa spp.</i>		
	No exam	No (+)	Infecti on %	No exam	No (+)	Infecti on %
Lai Chau pro.	52	51	98.1	25	0	0
Son La pro.	116	74	63.8	20	0	0
Hoa Binh pro.	67	37	55.2	20	0	0
Lao Cai pro.	45	43	95.6	25	0	0
Yen Bai pro.	50	36	72.0	30	0	0
Ha Giang pro.	24	3	12.5	20	0	0
Nghe An pro.	31	3	9.7	10	0	0
Total	385	247	64.2	150	0	0

The rate of alive metacercaria of fishborne trematode in raw-fish

In raw-fish/in mix solution	No larvae	Alive larvae	The rate of alive
Metacercaria in raw-fish for checking directly	300	285	95%
Metacercaria in mix solution of vegetables in 4 hours	200	186	93%
Total	500	471	94.2%

The rate of alive metacercaria of *Paragonimus* in baked-crab

Kind of baked crab	No larvae for checking	No alive larvae	Rate of alive
Yellow cover baked crab	300	195	65%
Black cover baked crab	150	35	23.3%
Total	450	230	51.1%

Fish borne trematode metacercaria was death (in left) and alive (in right)



***Paragonimus metacercaria* was
death (in left) and alive (in right)**



Thank you very much !

