



CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This is a survey research. The research aimed to study level of Knowledge, level of Attitude, and Practice regarding of liver fluke infection and the association between level of knowledge, level of attitude and demographic characteristic and the behavior of raw or half-cooked fish consumption of hill tribe population (Yao Nationality) in the elevated area. Sample group was “Yao” population in Ban Tonpeung, Moo 10, Tumbon Romyen, Chiangkham district, Phayao province, 184 of total. Their age was between 15 and 55 years. Interview form was used for data collection. Data analysis was done using frequency, mean, standard deviation, Pearson’s coefficient, and chi-square on SPSS program. The conclusion and discussion are as follow.

5.1 Discussion

Most of sample group had moderate and poor level of knowledge about liver fluke, relevant to practice of information reception that the hill tribe people learned about liver fluke from television and public poster, which is one way communication. Therefore they did not know much in detail.

A very small number of sample group gained knowledge about liver fluke from health workers and health volunteer, which was the most effective measure of education because it was a two-way communication.

Moreover there was no media in hill tribe dialect, which the target population could understand well. And not many of them had primary education, thus they lacked of Thai literacy ability.

Age group and education level of the sample group had been found to be related to the level of knowledge. Because of these factors i.e. young age group related to the ability to understand Thai language and get message from media better than the old age group, who was also the non-educated group.

Level of knowledge had no association with behavior of raw or half-cooked fish consumption. High proportion of sample group having knowledge level about liver fluke at low, moderate and high level performed risk behavior of raw fish consumption. Even the sample group of high level still consumed raw fish at 61.10%

This finding was relevant to the research result of Paiboon Sitthithaworn (2526), who found that knowledge about liver fluke had no relationship with the habit of raw or half-cooked fish consumption. This finding was also relevant to the research result of Kunjana Dee-viset (2535), who found that there was no association between knowledge about liver fluke and the fish cooking practice and toilet use.

Although the total knowledge about liver fluke was not significantly related to raw fish consumption behavior but when analyzed by item, 2 items of knowledge regarding liver fluke had a significant relationship with raw fish consumption behavior i.e. 1) food containing liver fluke and 2) symptoms of severe case

Another cause of that behavior was the location of village was amidst natural brooks, within a distance of 2 kilometers from the village. Village thus could easily capture fresh water fishes. And through communication and information exchange with people in town, hill tribe villager learned to adopt a custom of feast at special occasion e.g. celebration of new house, wedding, funeral, etc. Raw fish dishes were served in these occasions.

Level of attitude and belief on liver fluke were moderate and low in majority. Especially know ledge about the food causing liver fluke had association with the consumption of raw or half-cooked fish. The sample group, whose level of attitude was poor were more likely to eat raw or half-cooked fish more than the group whose level of attitude was better. This was relevant to the research of Wanida Sitthironnarit (2527), who found the consumption behavior of people were influenced by related components i.e. culture, tradition, attitude, and belief on a certain kind of food.

Adoption of tradition from local people of the north changed the habit of tribes on the way they served a dish. The belief was that raw Laab was highly honorable to guest if served in social function or village feast e.g. wedding, new house celebration, etc. The hill tribe had tendency to consume more raw food.

Beliefs that caused the consumption of raw fish were the followings: raw fish Laab is tastier than cooked-fish Laab, fresh lemon juice and alcohol drinks can eliminate liver fluke in food, fermented fish are fluke free. If we could change such beliefs, the diet habit could be improved.

Sex, education level, age group, and occupation were related to the level of attitude. Male having poorer level than female, tend to have performed more raw fish consumption behavior. Laborer group had improper attitude that raw food is healthy, relevant to the research of Walaithip Sacholwichan (2528) that fresh and raw food was healthy.

Most of people in hill tribe residential area had stool examination for liver fluke detection at health center. According to the campaign, stool exam was done annually. Health staff collected stool sample of people in the program area, and who found positive would be immediately prescribed with medicine free of charge. Coverage was nearly a hundred percent. But those cured resumed the consumption because they thought it could be cured easily by medicine, and there were feasts quite often making it unavoidable.

As regards to the toilet use behavior of the hill tribe, despite the presence of toilet almost at all houses many of them did not use toilet. It could be resulted from the occupation of farming, as they went out to work and had no toilet in the field. The control of liver fluke had been difficult consequently.

5.2 Conclusion

5.2.1 Demography of sample group

The sample group consisted of 184 subjects, equally 91 (49.50%) male and 93 (50.50%) female. Minimum age was 15 and maximum was 54, with a mean of 32. By age group, the group of 15 – 25 years held the biggest number, 61 (33.20%) while the

least was the group of 46 – 55 years, 29 (15.20%). Most of them, 72.80%, were married, and 20.10% were single, and 7.10% were widow or divorced or separated.

Among 184, 73 (39.70%) of them were family leaders, 68 (37.00%) were wife or husband of the family leader, 42 (22.80%) and 1 (0.05%) were children and inhabitants respectively.

Education level of the sample group, 80 of them (43.50%) were not educated but 53 (28.80%) graduated primary school and 51 (27.70%) graduated secondary school or higher education. Among them, 15 of them (69.90%) were in progress.

Most of them, 128 (69.60%) were farmers and 29 (15.80%) were laborers.

5.2.2 Knowledge about liver fluke

Most of them, 137 persons (74.50%) had moderate level of knowledge, 29 (15.80%) and 18 (9.80%) had good and poor level of knowledge respectively.

By item, the sample group knew well about cause, prevention and control, and elimination of the fluke. However, they had some misconceptions such as sign of the infected person, time duration, and organ in which the fluke inhabits.

5.2.3 Attitudes toward liver fluke

It was found that 88 cases (47.50%) had moderate level of attitude, 68 (37.00%) and 28 (15.20%) had good and poor level of attitude respectively.

By item, over 70 percents of the sample group understood that

1. Eating raw or half-cooked fish poses more risk to develop liver fluke than eating cooked fish
2. If develop liver fluke, there comes a great chance of liver cancer
3. Using sanitation toilet can prevent the transmission of liver fluke
4. Despite healthy person, one can develop liver fluke if he eats raw fish

But there are still above 20% of the sample group understand that

1. Raw fish Laab is tastier than cooked-fish Laab
2. Fermented fish is fluke free
3. Fresh lemon juice addition to raw fish dish can eliminate liver fluke

5.2.4 Practice of raw or half-cooked fish consumption

Among sample groups of 184 cases, 135 (73.40%) ate or used to eat raw or half-cooked fish whilst 49 (26.60%) did not eat it. The types of food eaten were raw fish Laab, Koy, fresh Pla Ra, and rare grilled fish. For frequency, mostly (54.07%) ate not more than once a month.

5.2.5 Stool examination for liver fluke detection

There were 105 among the sample group (57.10%) had stool examination; 103 (98.10%) went to health center and only 2 went to hospital.

Thirty-six cases (34.29%) found positive from the stool exam, among these, 35 of them (97.20%) were treated with Paziquantel.

As treated, it was found that

- Twenty of them (59.56%) had follow-up examination. The result was that 2 of them found positive and 18 negative.
- Twenty-six of them (72.22%) resumed raw or half-cooked fish consumption.

5.2.6 Toilet use practice

One hundred and eighty-three of the sample group (99.50%) had sanitary latrine at home. And 138 of them always used toilet. Forty-six (41.30%) still used places other than toilet (e.g. woods, bush, riverbank) for excretion.

5.2.7 Information of liver fluke

Information of liver fluke, the sample group learned from radio and television the most (51.00%), then from public poster in the village (49.50%), and from health volunteer and health staff (33.70% and 27.70% respectively).

5.2.8 Association

Association between demographic characteristic i.e. sex, education level, age group, and occupation and the level of knowledge about liver fluke of the sample group. It was found that sex and occupation of the sample group had insignificant difference in level of knowledge about liver fluke.

- Sex

Male and female had insignificant difference at 0.05 (P-value = 0.3960) in level of knowledge about liver fluke.

- Occupation

Occupation of the sample group had insignificant difference at 0.05 (P-value = 0.4900) in level of knowledge about liver fluke

- Education level

The different education level of the sample group had significant difference in level of knowledge about liver fluke at 0.05 (P-value = 0.0277). Higher education level group had better level of knowledge about liver fluke than the non-educated group.

- Age group

The different age group of the sample group had significant difference in level of knowledge about liver fluke at 0.05 (P-value = 0.004). The younger group had better level of knowledge about liver fluke than the older one.

5.2.9 Association between demography and level of attitude on liver fluke

Association between demographic characteristic i.e. sex, education level, age group, and occupation and the level of attitude on liver fluke of the sample group. It was found that demography of the sample group had significant difference in level of attitude on liver fluke.

- Sex

Male and female had significant difference at 0.05 (P-value = 0.011) in level of knowledge about liver fluke. Female had better level of attitude than the male.

- Education level

Education level had significant difference at 0.05 (P-value = 0.0042). Higher education level had better level of attitude on liver fluke than the non-educated one.

- Age group

Age group had significant difference at 0.05 (P-value = 0.0004) in attitude on liver fluke. The younger group had better level of attitude on liver fluke.

- Occupation

Occupation had significant difference at 0.05 (P-value = 0.0060) in attitude on liver fluke. Students had better attitude on liver fluke than farmers/laborers.

5.2.10 Association between demography and practice of raw or half-cooked fish consumption

Association between demographic characteristic i.e. sex, education level, age group, and occupation and practice of raw or half-cooked fish consumption. It was found that different demographic characteristic had significant difference in practice of raw or half-cooked fish consumption.

- Sex

Male and female had significant different practice of raw or half-cooked fish consumption at 0.05. (P-value = 0.0060). Male consumed raw or half-cooked fish in higher rate than female.

- Education level

Different education level had significant difference in practice of raw or half-cooked fish consumption at 0.05 (P-value = 0.0008). The non-educated group consumed raw or half-cooked fish in higher rate than higher education level.

- Age group

Different age group had significant difference in practice of raw or half-cooked fish consumption at 0.05 (P-value = 0.045). The younger group consumed raw or half-cooked fish in lower rate than the older group.

- Occupation

Different occupation had significant difference in practice of raw or half-cooked fish consumption at 0.05 (P-value = 0.0000). The students consumed raw or half-cooked fish in lower rate than the farmers/laborers.

5.2.11 Association between level of knowledge about liver fluke and Practice of raw or half-cooked fish consumption

The sample group with different level of knowledge about liver fluke had insignificant difference in practice of raw or half-cooked fish consumption at 0.05 (P-value = 0.2160)

When analyzed the association between level of knowledge about liver fluke, by item, and the practice of raw or half-cooked fish consumption, it was found that different level of knowledge group had significant difference in practice of raw or half-cooked fish consumption at 2 items.

1) what food causes liver fluke

The group of different knowledge on such item had significant difference in practice of raw or half-cooked fish consumption at 0.005 (P-value = 0.005). The group with proper knowledge consumed raw or half-cooked fish in lower rate than the group with improper knowledge.

2) Severe symptoms of liver fluke

The group of different knowledge on such item had significant difference in practice of raw or half-cooked fish consumption at 0.005 (P-value = 0.012). The group

with proper knowledge consumed raw or half-cooked fish in lower rate than the group with improper knowledge.

5.2.12 Association between level of attitude on liver fluke and Practice of raw or half-cooked fish consumption

The sample group with different level of attitude on liver fluke had significant difference in practice of raw or half-cooked fish consumption at 0.05 (P-value = 0.450)

When analyzed the association between level of attitude on liver fluke and practice of raw or half-cooked fish consumption, by item, it was found that the sample group with different level of attitude, by item, had significant difference in practice of raw or half-cooked fish consumption in these 3 items.

1) Raw fish Laab is tastier than cooked fish Laab

The sample group with difference of such attitude had significant difference in practice of raw or half-cooked fish consumption at 0.005 (P-value = 0.004). The group with improper attitude consumed raw or half-cooked fish in higher rate than the group with proper attitude.

2) True men must eat raw fish Laab

The sample group with difference of such attitude had significant difference in practice of raw or half-cooked fish consumption at 0.005 (P-value = 0.045). The group with improper attitude consumed raw or half-cooked fish in higher rate than the group with proper attitude.

3) Making fish cooked is a waste of time

The sample group with difference of such attitude had significant difference in practice of raw or half-cooked fish consumption at 0.005 (P-value = 0.026). The group with improper attitude consumed raw or half-cooked fish in higher rate than the group with proper attitude.

5.3 Recommendations

To educate hill tribe villager, local health worker needs to apply suitable media to the localities and formulate appropriate intervention continually. For example, laborer goes out to the field at daytime, so nighttime is appropriate for education. At daytime, elderly stays at home, media carried out must suit to elderly 's perception and educate in persons. For students, they go to school and understand Thai language well. Education about communicable diseases should be added into curriculum or a health worker visit for education should be organized periodically.

Although gender was not related to level of knowledge about liver fluke, but male was found having lower level of knowledge about liver fluke compared to female group, as well as male's attitude. Male, therefore, consumed raw fish in high proportion (89.00%). As a consequent, intervention and education on liver fluke should focus primarily to male as target group.

Another interesting group is student. Student had higher knowledge and attitude to farmer and laborer group and students were farmer and laborers' children. Thus one of prevention measures is encouraging students to talk to their family members as an

educator and bring the result of talking to share to class, integrated into different lessons on communicable diseases.

Only education to hill tribe villager is not enough to change their behavior of raw fish consumption. Despite high level of knowledge, 62.10% still consumed raw fish because of custom, culture, belief, and other related factors. Other than education and attitude change, the promotion of toilet use to 100% is also necessary. A lot of hill tribe villagers, living in forest and elevated area, which is the origin of water supply for ground people, lack of toilet use. Consequently, liver fluke can spread out and communicate to ground people.

Although the total knowledge about liver fluke was not significantly related to raw fish consumption behavior but when analyzed by item, 2 items of knowledge regarding liver fluke had a significant relationship with raw fish consumption behavior i.e. 1) food containing liver fluke and 2) symptoms of severe case. As a result, education on liver fluke should focus on these 2 items.

Intervention in hill tribe people for liver fluke education must be considered in the following aspects:

- Two-way communication is recommended. Hill tribe people do not understand Thai language and unfamiliar words. Informant should know how to speak dialect.
- Production of media should be in hill tribe dialect of the target area.
- It should emphasize the food causing liver fluke and symptoms of liver fluke.

Manpower delegation of health staff working in the field, it should be the health staff originated from that area or belonged to that ethnic. Health staff should know how to use microscope for stool examination.

The knowledge alone is inadequate for changing behavior of consumption. Attitude is something to be emphasized as well.

Evaluation of implementation and supports for working are regularly required.

All intervention e.g. education, attitude change, case finding, and treatment are to be continuous.

Effective intervention to solve liver fluke problem in hill tribe people includes participation in all processes of implementation, from the problem statement, solution finding, and implementation.

5.4 Limitation of Study

The result of this study is not at the complete stage due to some limitations e.g. time constraints, the researcher is in charge of loads of civil service work and the target area is a remote area, lack of reference and source of related literature and so on. In the future, future researcher should find more related studies, motivation of risk behavior when and how it was adopted. If not mentioned, it is to be asked to elderly in village about tradition, custom, and adoption of food consumption culture as for benefit to solve liver fluke problem among hill tribe villagers.