



# Knowledge, Risk Perception, and Behavior on Foodborne Diseases among People in High and Low Diarrheal Incident Areas of Northern Thailand



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## Introduction

Foodborne diseases are one of the most important public health problems in Thailand. During 2003-2012, the diarrheal incidence in humans increased continuously with highest incidences in the northern region since 2005. This study aimed to determine the differences in diarrhea preventive knowledge and perceptions regarding the risk of contracting diarrheal diseases, food consumption habits and potential risk behaviors among people in high and low diarrheal incident areas in northern Thailand. The study was designed and conducted under the EcoHealth Resource Center by different faculties of the Chiang Mai University (CMU).

## Materials and methods

Four villages, two in a high and two in a low diarrheal incident area in Chiang Mai were selected by using information from provincial and district disease surveillance system. In each area 200 (high) and 124 (low) household members were included in the survey (Dec 2012 - Jun 2013). Various tools for data collection were used such as semi-structure questionnaire, focus group discussions or village mapping developed and implemented by a trans-disciplinary research team from different faculties of CMU, Thailand. Data were analyzed using descriptive statistics and chi-square test.



## Results

### Knowledge on diarrheal diseases

The differences in knowledge among the two groups were individuals with diarrhea should be given anti-diarrheal drug ( $p < .01$ ), eating contaminated food or drinking water could cause diarrhea ( $p < .01$ ), using the same knives and cutting boards to prepare raw food ( $p = .01$ ) (Table 1)

Table 1: Knowledge on diarrhea diseases	p-value
An individual with diarrhea should be given anti-diarrheal medication.	.001
Diarrhea is caused by eating food or drinking water contaminated with disease organisms.	.003
Knives and cutting boards which have been used to prepare raw foods and are then used to prepare cooked foods might cause diarrhea.	.01

### Risks perceptions regarding foodborne diseases

Household members in high and low incidence areas perceived differently that eating meat from sick animals could cause diarrhea ( $p < .05$ ) and the risk of getting diarrhea depends on individual eating practices ( $p < .05$ ). All other risk perceptions were not statistically different (Table 2).

Table 2: Risk perception regarding foodborne diseases	p-value
Eating meat from sick animals can cause disease.	.024
Risk of diarrhea depends on individual eating practices.	.043
Eating without washing hands puts someone at risk for diarrhea.	.111
Eating storage food without covering is the risk of getting diarrhea	.313
Eating storage food without warming can cause diarrhea	.130
Eating raw or partially cooked foods puts someone at risk for diarrhea.	.382
Severe diarrhea case should go to see a doctor or HCW immediately.	.336

### Environmental control practices

Practices in disposing of food scraps in waste containers with lids, eradicating the garbage by burning and disposing all refuse in containers with lids and were statistically different between household members in the two areas ( $p < .01$ ) (Table 3)

Table 3: Environmental control practices	p-value
Dispose of food scraps by placing in waste containers with lids.	.000
Eradicate the garbage by burning	.004
Dispose all refuse in containers with lids.	.006

## Conclusions

There were many differences on knowledge, risk perception, and prevention practices toward foodborne diseases among people in high and low diarrheal incident areas in northern Thailand. Targeted community training activities should address those differences in the future. The study has been successfully demonstrated that that different faculties can work together in a strictly trans-disciplinary approach. Joint proposals are currently being developed, e.g. related to see food and PH concerns.

### Food consumption practices

The differences in food consumption practices among the two areas included purchasing raw food, eating packaged food with FDA approval, eating food which had just been cooked ( $p < .01$ ) & eating food outside the home ( $p < .05$ ) (Table 4)

Table 4: Food consumption practices	p-value
Purchase raw food from a store in the village.	.000
Purchase raw food from a supermarket.	.000
Eat packaged food with FDA approval label	.000
Eat food which has just been cooked.	.009
Eat food outside the home.	.048



### Sanitary practices

Practices in covering food in closed containers, washing fresh fruit and vegetable before eating, washing hands with soap and clean water before eating and after defecating, keeping uneaten food in refrigerator, and washing food utensils with dishwashing liquid, were statistically different among household members in the two areas (Table 5)

Table 5: Sanitary practices	p-value
Cover food in closed containers	.000
Wash fresh fruit and vegetable before eating.	.011
Wash hands with soap and clean water before eating.	.013
Wash hands with soap and clean water after defecating.	.013
Keep uneaten food in refrigerator	.015
Wash food utensils with dish washing liquid.	.026



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