Perception Of Health Risk and Concern on Smoke Problem In Crisis Zone, Chiang Mai Province

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Abstract

The research aimed to 1. study the perception of health risk in smoke problem among tourists 2. study the concern on smoke problem among tourists. The sample was 400 tourists visiting crisis zone in Chiang Mai District, Chiang Mai Province. Purposive sampling was implemented. Frequency, Percentage, Mean and Standard Deviation were implemented. Validity of IOC was 0.915. Reliability (Cronbach Coefficients Alpha) was 0.852. It was found that most tourists perceived the smoke problem from media such as internet and television. Besides, the perception of health risk was at the highest level with the average of 4.58 and standard deviation as 0.618. It was revealed that the tourists perceived that smoke problem caused eyes irritation, nose irritation, Conjunctivitis, cough and pharyngitis and tiny particle caused the risk of heart disease, emphysema and respiratory disease which affected health in a long term. Moreover, it was revealed that the concern on smoke problem was at high level with average of 4.33 and standard deviation as 0.575. Besides, it was found that the tourists got worried about the increasing smoke problem in every year and it might cause the change of their travel plans. Suggestions for further research 1)There should have qualitative research, in-depth interview in order to get precise and beneficial findings. 2)There should have the study on the ways to build participation process in solving smog problem in Northern Region and publicize the information in order to build the awareness on being the owner natural places and environment in the communities for visitors.

Keywords: Risk, Health, Smoke, Tourists

Introduction

Air pollution especially smog prorble occurred in Chiang Mai and other provinces in the Nothern Region. This year the citicizen were panic with the smog problem increasingly. The problem was obviously seen in the drought season which the Thai Meteorological Department addressed from the 1st of December to the 31st of March for 4 months. Each year the quality of weather condition was the worst from February to May. It was found that the provinces in Northern Region especially Chiang Mai, Chiang Rai, Payao, Lampang, Lamphun and Tak were facing the problem more than other provinces. It was as the result that the topography of the upper Northern was the basin which was surrounded with the valey (Pollution Control Department, 2008). The mountains obstructed the wind blowing so the smog could not be blown from the area. Also, there was the factor of the difference of cold air mass near the ground and hot air mass beyond the cold air which affected the smog not floating to the above astmosphere. If the area still had the smog released to the atmosphere continuously until it accumulated to high density, it was fatal to the people who got the smog. (Jeensart. W. ,2008). The problem of smog in the upper north of Thailand Usually occurs between December and April of every year during the dry season Provinces that are often affected by the problem

Such consists of Chiang Mai Province Chiang Rai Phayao Province Mae Hong Son Province Lampang Province Lamphun Province Phrae and Nan provinces The main cause of the smog problem Caused by wildfires, which are mainly caused by burning in the open air and with The topography of the upper northern region is mostly It is a large, complex mountain and a basin. The pan easily causes the accumulation of pollutants. Pollution can't spread The area has also been affected by smog in neighboring countries especially the country Myanmar, which borders.(Pongtherdsak N., Koichusakul P.and Chuenwong P.(2015)

Smog was the condition which the haze had high density causing from particulate matter that could not be seen with naked eyes spreading in the air. So, it created the white haze found in the low humidity and dry weather. Main causes of smog were from forest fire occurring naturally, burning for agriculture, incineration and electricity usage in factory and tourism. The town management also caused a lot of smog in the Northern Region such as traffic and town planning. Also, the causes of smog were from dust from construction, factory, toxic fumes from factory, transportation and car and dust from sandy soil androads, incineration, incineration for cultivation, setting bonfire, burning for rituals and burning for food. (Kaewchaihan. N. ,2011)

The smog had particulate matter being the element which it could be passed “filter” of respiratory system like nose hair. When human breathed and particulate matter got into lung terminal and heart terminal which body could not get it out, it caused complication of respiratory system which led to lung cancer and affected to health in a long run. The often found symptom such as eye irritation, eye pain, nose pain and rash. As the chemical and toxic gas in the air and PM 2.5 were the stimulant of the irritation and inflammation of mucous membrane especially respiratory system which was sensitive with the stimulant such as allergy, asthmatic, chronic obstructive pulmonary disease. These symptom became aggravated when particulate matter came to the respiratory system and it caused inflammation and damages of tissue and vascular wall. It was believed that people who had vascular disease and heart disease would often have recurrence when there was thick smog.

Muang District, Chiang Mai Province was the crisis zone and the visitors who came to visit got affected from the smog as they were not able to go to all planned places and were worried about the health condition. Therefore, the researchers concerned about the mentioned problem and were interested in studying of the perception of health risk of the concern of smog problem of the visitors in crisis zone, Muang District, Chiang Mai Province which those findings would be taken to the guideline to solve the problem, change the behavior and prevent the danger risk correctly.

Objective of Research

1. To study the perception of health risk of the visitors toward smog problem, Muang District, Chiang Mai Province.
2. To study the concern of the visitors toward smog problem, Muang District, Chiang Mai Province.
3. To study the knowledge and the understanding of the visitors on health risk toward smog problem, Muang District, Chiang Mai Province.

Research Methodology

Scope of Research

The study was the study on the perception of health risk and the concern on smog problem of the visitors in the crisis zone in Municipal area, Muang District, Chiang Mai Province.

Population and Sample

The sample was 400 visitors in crisis zone in Municipal area, Muang District, Chiang Mai Province. The accidental sampling was implemented using the formula of Taro Yamane with the Reliability as 95% (Taro Yamane, 1967).

Research tools

The research tool was the questionnaire with the 3 parts as following:

Part 1 General information and the tourism behavior of the respondents

Part 2 The perception of health risk toward smog problem of the visitors in crisis zone, Muang District, Chiang Mai Province.

Part 3 The concern of smog problem of the visistors in crisis zone, Muang District, Chiang Mai Province.

The score of the questionaires part 2 and part 3 was addressed the scale. The interpretation of perception and concern score level and efficiency level was 5 levels (Best and Khan, 2006)

Part 4 Sugestions of the visitors

The questionnaire was the research tool which was used for data collection which was acceptable and reliable. The researchers had the experts checke the Validity of IOC which was as 0.915 and Reliability was checked by taking the questionaires to implement with 30 samples with the Reliability as 0.852 (Cronbach Coefficients Alpha) and if Cronbach alpha was more than 0.7, it meants that the variable was reliable.

Data collection

The researcher collected data from 400 questionnaires and checked the accuracy and completeness. Then, the researchers took the data for Code Book and take data for analyzing by using Social Science Package Program.

Statistic used in data analysis

Descriptive Statistics was implemented for describing personal characteristic and behavior of sample in order to categorize the data and to know the general information of sample using Percentage and Mean. The analysis of perception of health risk and concern of smog problem used Mean and Standard Deviation.

Research Results

Table 1 Demographic characteristic of sample

General information	N (400)	Percentage
Gender		
Male	182	45.5
Female	218	55.5
Age		
Less than 21 years old	134	33.5
21 - 40 years old	178	44.5
More than 40 years old	88	22.0
Education level		
Lower than Bachelor Degree	129	32.2
Bachelor Degree	175	43.8
Higher than Bachelor Degree	96	24.0

General information	N (400)	Percentage
Accommodation during visiting		
Hotel	278	69.5
Dormitory	22	5.5
Relatives' Houses	28	7.0
Others	72	18.0
Length of visiting time		
1-3 days	135	33.8
4-6 days	127	31.8
7-9 days	63	15.7
More than 9 days	75	18.7

Table 1 showed that most of the respondents were female with the percentage of 55.5 (N=218), aged 21 – 40 years old with the percentage of 44.5 (N=188), having Bachelor Degree with the percentage of 43.8 (N=175), staying at hotels with the percentage of 69.5 (N=218), having length of visising time for 1-3 days with the percentage of 33.8 (N=135).

Table 2 Perception of health risk of the visitors on smog problem in Muang District, Chiang Mai Province.

Perception of health risk of visitors on smog problem	$\overline{X}$	S.D.	Perception Level
1. Smog affected health both in short time and long time.	4.88	0.552	The highest
2. People who had asthmatic could have much recurrence in smog condition.	4.33	0.647	High
3. Lung cancer was caused from accumulated smog in lung for a long time.	4.69	0.572	The highest
4. The diseases caused from smog was Heart attack and Arrhythmia.	4.28	0.712	High
5. The air pollution from smog caused eye irritation, nose pain, pink eyes, cough and pharyngitis and hard breathing.	4.82	0.515	The highest
6. The air pollution from particulate matter caused the risk of asthmatic and Emphysema.	4.48	0.611	High
Total	**4.58**	**0.618**	**The highest**

Table 2 showed that the perception of health risk of the visitors toward smog problem in Muang District, Chiang Mai Province in overall was at the highest level with Mean as 4.58 and Standard Deviation as 0.618. While considering each area, it was found that the perception of the air pollution from smog affecting health both in short time and long time was at the highest with Mean as 4.88 and Standard Deviation as 0.552, the air pollution from smog effecting eye irritation, nose pain, pink eyes, cough, pharyngitis and hard breathing with Mean as 4.82 and Standard Deviation as 0.515, lung cancer caused from accumulated smog in lung for a long time with Mean as 4.69 and Standard Deviation as 0.572 respectively. Every area was at the highest level.

Table 3 Concern of the visitors on smog problem in Muang District, Chiang Mai Province

Concern of the visitors on smog problem	$\overline{X}$	S.D.	Concern Level
1. The solution for air pollution from smog in the area was to stop burning leaves and branches.	4.12	0.536	High
2. You were worried about smog problem in the tourist attraction places.	4.61	0.489	The highest
3. You were worried that smog would affect your health and your family members' health.	4.52	0.611	The hightest
4. You had a chance to publicize the information of smog by yourself.	3.96	0.581	High
5. You used bicycle instead of motocycle and car.	4.43	0.698	High
Total	**4.33**	**0.575**	**High**

Table 3 showed that the concern of the visitors toward smog problem in overall was at high level with Mean as 4.33 and Standard Deviation as 0.575. While considering by each area, it was found that the concern of the visitors toward smog problem in the tourist attraction places was at the highest level with Mean as 4.61 and Standard Deviation as 0.489 , the concern of air pollution from smog affecting one's health and the family members' health with Mean as 4.52 and Standard Deviation 0.611 being the highest level and using bicycle instead of motocycle and car with Mean as 4.43 and Standard Deviation as 0.698 being at high level respectively.

Suggestions

1. There should have place for hygienic mask selling and hand wash gel at the tourist attraction places which facilitated the visitors and other people which nowdays it was hard to afford and it did not have enough for people.

2. The shops or tourist attraction places located in less air flow area which it should have air purifier to reduce the quantity of smog.

3. There should have the campaign for the visitors and other people to use public transportation, bicycle or walking for reducing air pollution from toxic fumes from engines. It should have the management which the visitors and other people could access the transportation conveniently and safely.

Result Discussion

Most of visitors who were the respondents were female aged 21 – 40 years old having Bachelor Degree, staying at the hotels and having length of visiting time for 1-3 days.

The visitors perceived that air pollution from smog affected mind, Chaimongkol.U. (2011). society and health both in short time and long time which the symptom could be found including rash, eye irritation, eye pain, nose pain, pink eyes, cough, pharyngitis and hard breathing. Especially the respiratory system, it was sensitive with the stimulant such as allergy and asthmatic.

The visitors concerned on smog problem in the tourist attraction places which they concerned that this problem affected the health of themselves and the health of their family

members and they felt worried that this smog problem would increase every year. Natakarnkitsakul S. and et al. (2008). Besides, it was found that the tourism plan schedule was changed and the hygienic mask and hand wash gel were not enough so it affected the tourism a lot.

Research Recommendations

There should take the findings to be the strategic planning to reduce smog problem and set the ways to support and promote the tourism in Chaing Mai Province.

Suggestions for further research

1. There should have qualitative research, in-depth interview in order to get precise and beneficial findings.
2. There should have the study on the ways to build participation process in solving smog problem in Northern Region and publicize the information in order to build the awareness on being the owner natural places and environment in the communities for visitors.

Suggestions from the questionaires

1. There should have places for hygienic mask selling and hand wash gel in the tourist attraction places in order to purchase conveniently as it was hard to afford and they were not enough for people.
2. The shops or tourist attraction places located in less air flow area which it should have air purifier.
3. There should have the campaign for the visitors and other people to use public transportation, bicycle or walking for reducing air pollution from toxic fumes from engines.

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