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## RESEARCH ARTICLE

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### Analysis of Risk Factors of Quality of Snacks Food Sold in Town Squares of Magetan, Ngawi, Ponorogo and Madiun

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#### ABSTRACT

Guidelines on Hygiene Sanitation Requirements for Snack Food through Ministry of Health Decree No. 942 / Menkes / SK / VII / 2003 has been issued, including its supporting regulations. The national movement towards safe, qualified and nutritious snacks food by the government through the Vice President of the Republic of Indonesia has been declared since January 31, 2011. But the incidence of national poisoning that occurred in 2014 based on group of causes factors, the food ranked the highest. The purpose of this research is to analyze the risk factors of physical, chemical, and microbiological contamination on snacks food. Type of observational research is cross sectional approach. Object / population is all snack foods sold in Town squares of Magetan, Ngawi, Ponorogo and Madiun. The selected sample is siomay snack food. Analysis technique used is descriptive percentage. Bivariate analysis is done to get an idea of whether there is a relationship between independent variables with other independent variables, and between each independent variable with the dependent variable. In the analysis, it is used cross tabs and Chi-square test. Multivariate analysis is used to analyze the role of independent variables together with dependent variable. The result of physical examination is generally got bad result, chemical examination got good result and microbiology examination of germs resulted bad result, so food of siomay snacks is generally declared not worth consuming.

**Keywords:** Snacks food, Physical, Chemistry, Microbiology quality

#### INTRODUCTION

Health is a human right, one of the elements of welfare that must be realized in accordance with the ideals of the Indonesian nation as referred to in "Pancasila" and in the 1945 Constitution. Every activity in the effort to maintain and improve the degree of public health must be implemented well, based on the principles of non-discriminatory, participatory, and sustainable, to develop and to upgrade human resources of Indonesian, as well as to increase the resilience and competitiveness of nations for national development. Any thing that causes health problems to the people of Indonesia will cause great economic losses for the state, and any effort to increase the degree of public health means investment for the development of the country. The development effort must be based on health insight, it means that national development should pay attention to public health. To make it real is the responsibility of all parties, both government and society<sup>(1)</sup>.

Food is a basic need for human survival, so everyone needs to be guaranteed in obtaining good quality and safe food. Foods that are not produced in a good and correct way can be sources of microorganisms and chemical contaminants that can be harmful and cause disease to humans. The occurrence of cases of food poisoning could be avoided if the food production is processed with proper processing procedures. The public needs to be protected from foods and beverages that do not meet health requirements in order not to endanger their health<sup>(2)</sup>.

One of food product is food snacks. Snack foods are foods and beverages which are processed by food makers at their food stalls and served as fast food for sale to the public other than those served by caterers, restaurants, and hotels<sup>(3)</sup>.

Generally, street vendors do not know of any illegal food additives contained in the raw materials they used to make the snack food. Illegal food additives is used as an additional material by the reason it is cheap,

gives the appearance of attractive and easy to get. The food sold by street vendors is generally not well prepared and not clean, because mostly the vendors/ traders have low knowledge on safe handling of food<sup>(4)</sup>.

Data from East Java Provincial Health Office in 2009, 52 cases occurred due to food poisoning, the number of victims reached 1,052 people, four people died<sup>(5)</sup>.

Chemical contamination commonly found in the food of street vendors is the use of illegal food additives such as borax, formalin, rhodamine B dyes, and yellow methanil. These substances accumulate in the human body and are carcinogenic, in the long term cause diseases such as cancer and tumors in human organs<sup>(6)</sup>.

The Department of Health states that food that meets health requirements is that it does not contain pathogens, it does not contain harmful substances, and aerobic germs in food should not exceed the number of germs in food<sup>(7)</sup>.

On January 31, 2011 the national movement launched into safe, qualified and nutritious snacks food by the Vice President of the Republic of Indonesia. The purpose of this movement is to improve safe, qualified and nutritious snack food. The movement is expected to increase the percentage of eligible snacks from 56% to 90% within 3 years<sup>(8)</sup>.

However, according to the national graphics of poisoning incidence that occurred in 2014, based on the causative group, food ranked the highest position, with 601 occurrences<sup>(9)</sup>.

Based on survey results polled on consumers who like eating snacks food in Town squares of Magetan, Ngawi, Ponorogo and Madiun, the majority of consumers love eating the type of snacks food namely Siomay. On the basis of these considerations, the snacks food of Siomay worthy studied, dealing with its quality of Physical, Chemical, and Microbiology.

## METHODS

This study designed based on cross sectional approach, data collected at the same time and the variables studied were measured only once<sup>(10)</sup>. The variables of risk factors and the variables of the effects factors were observed at the same time<sup>(11)</sup>. The population was all siomay snack foods sold by sellers/ vendors in the Town squares of Magetan, Ngawi, Ponorogo and Madiun. In one square, there were more than one Siomay vendors/traders, snack food samples taken on the basis of consideration: the number of consumers who consume on the type of food which has been determined as a sample that is siomay, allegedly the snack foods are contaminated physically, chemically and microbiologically. Because each research location was only taken 1 sample of siomay food, then sample in this case called specimen<sup>(12)</sup>. Thus, the number of specimens studied at 4 locations x 1 type of food = 4 specimens.

Independent variables: behavioral characteristics of snack food sellers/traders: Knowledge of snack food traders about physical, chemical and microbiological hazards in making siomay food snacks. Attitudes towards the use of Borax, Formalin, Rhodamine B dyes in making siomay snack food and Practice / action in making siomay snack food. Dependent variable were: physical quality (color, odor / aroma, texture and taste); chemistry (borax, formalin, rhodamine b dyes) and microbiology (figures germs) on siomay food. Disturbing variables: types of siomay snack foods, and raw materials of siomay snacks food. These variables in the study were observed, but not analyzed.

Research lokation were the town squares of Magetan, Ngawi, Ponorogo and Madiun (3 Regency and 1 administrative city). The quality test of siomay snack food was done at Laboratory of Chemistry and Microbiology, School of Environmental Health of Magetan.

Research tools were: 1) interview guide 2) knowledge test 3) attitude test 4) food identification sheet 5) a set of specimen collection and sampling tools to analyze the physical, chemical and microbiology quality of siomay snacks food.

Data collection process were: 1) Interview, to explore the practice of making siomay snacks.food 2) Test of knowledge to measure the knowledge level of siomay food traders/ sellers about the nature and danger of Physical, Chemical and Microbiology. 3) Attitude test is to measure the attitude of siomay snack food vendors on the use of Borax, Formalin, Rhodamine B dye in the production of siomay snacks. The practice the test is done orally. 4) Observation is conducted in the squares to identify the foods sold by the street vendors/traders. 5) Chemical analysis is conducted to explore data on Physical quality (color, odor / aroma, texture and taste) of siomay snack food. Chemical quality (Borax Content, Formalin, Rhodamine B dye) and Microbiological Quality (Total Number of Germ) on snack food of siomay. 6) Recording documents as supporting data (secondary data) from Health Offices of Magetan, Ngawi, Ponorogo and Madiun.

Processing and analysis of data were: 1) Editing (for checking and improving the contents of the questionnaire) 2) Coding (this activity classifies data / answers by their respective categories, coding is done after the data is edited) 3) Performs assessment of each variable. Assessment of observation result is using scoring system, assessment is done in each variable. The way of assessment according to Arikunto (2005): a) For each variable examined, given the value according to the state of the variable. b) The sum of the values in the variable is the sum of the values of some eligible components. c) Score: Weight x Value d) Max Score: Weight x Max

Value. d) Assessment of each variable e) Rating Weight. The assessment criteria in this research are: (1) Good: 8-10 (2) Medium / Enough: 6-7 (3) Less: 0-5<sup>(13)</sup>.

Organoleptic examination, using the Indonesian National Standard Number 01-2346 of 2006 on the Test of Organoleptic and / or Sensory Testing. Criteria Good value  $\geq 7$  and Criteria Not Good value  $< 7$ .

Laboratory examination were: a). Data of Borax and Formalin examination results are compared with the standard of Decree of the Minister of Health of the Republic of Indonesia Number 722 / Ministry of Health / Per / IX / 1988 regarding Food Additives with Negative (uncontaminated) or Positive (polluted) criteria<sup>(14)</sup>. b). Data on the results of the inspection of Rhodamin B Dyes in the laboratory is compared with the standard of Regulation of the Minister of Health of the Republic of Indonesia No. 239 / Ministry of Health / Per / V / 1985 on Certain Dyes declared as Dangerous Materials with negative (uncontaminated) or positive (polluted) criteria. c) Data on the results of examination of germs in the laboratory compared to the standard quality of the Decree of the Head of Food and Drug Supervisory Agency No.HK.00.06.1.52.4011 in 2009 on the Determination of the Limit of Microbe Contamination in Food<sup>(15)</sup>.

The analysis was performed univariate, bivariate, and multivariate. Analysis of risk factors for the contamination of borax, formalin and rhodamine B toxic food on siomay snack food was used by OR test, with the provision of p value  $< 0.05$ ; value OR  $> 1$ , and 95% CI value.

## RESULTS

### Knowledge of Snack Food Vendors About The Dangers of Borax, Formalin and Rhodamin B

Table 1. Frequency distribution of knowledge of traders of siomay snack foods about the dangers of borax, formalin and the prohibited dye of rhodamine B

No	Indicator	Category	Frequeency	Percentage
1.	The score of the ability to answer correctly 10 questions of knowledge about the dangers of Physical, Chemical and Microbiology	Good : 8-10	4	100
		Medium : 6-7	0	0
		Less : 0-5	0	0
Total			4	100

The data in table 1 indicates that 100% of siomay snack sellers had knowledge of the dangers of borax, formalin and rhodamine B baffled colorants in either category (100%).

### Attitudes of Siomay Snack Food Traders Against the Use of Borax, Formalin and Prohibited Coloring Materials Rhodamin B

Table 2. Frequency distribution of traders attitudes of siomay snack foods on the use of borax, formalin and prohibited coloring materials rhodamine B

No	Indicator	Category	Frequeency	Percentage
1.	The score of a statement indicating his / her consent to the use of Borax, Formalin, Rhodamine B in siomay snack foods	Good : 8-10	4	100
		Medium : 6-7	0	0
		Less : 0-5	0	0
Total			4	100

The data in table 2 indicates that 100% of siomay snack sellers/traders had attitudes toward the use of Boron, Formalin and Forbidden Dye of Rhodamine B Materials in the category of Good (100%).

### Practice Producing Siomay Snack Food

Table 3. Frequency distribution of practice score of siomay snack food production

No	Indicator	Category	Frequeency	Percentage
1.	Using / not using Borax, Formalin, Rhodamine B in the practice / action of making siomay snacks based on the producers' recognition	Do not use : Good	4	100
		Use : Not Good	0	0
Total			4	100

Interviews about the practice of making siomay snacks food in relation to the use of Borax, Formalin and Prohibited Dyes of Rhodamine B, it was found that 100% of the food vendors/traders of siomay do good practice / action in the process of siomay production and catorized into Good category (100%).

**Physical Inspection Quality of Siomay Snack Food.**

## a. Test Description

Table 4. Recapitulation of results of description test on siomay foods

Specimen	Sensory Test			
	Appearance	Aroma	Texture	Rasa
1	Pale grayish	The smell of meat and the smell of typical starch	Chewy and rough	Savory meat and salty
2	Grayish	The smell of meat and the smell of starchy	Chewy	Taste of meat and salty
3	Grayish	The smell of meat and the smell of the typical starch	Chewy and rough	Taste of meat and salty
4	White pale grayish	The smell of meat and the smell of starch	Chewy and rough	Taste of meat and salty
Average	Pale grayish	The smell of meat and the smell of starch	Chewy and rough	Taste of meat and salty

The results of the description test which includes the sensory test conducted in 1 examination, the average result is, Appearance: Pale grayish, Aroma: typical meat smell and typical starch smell, Texture: Chewy and rough, Flavor: Savory taste of meat and salt.

## b. Hedonic Test

Table 5. Recapitulation result on siomay snack food

No	Specimen	The Result of Test			Explanation
		Description	Hedonic	Score	
1	1	Pale Grayish; the smell of meat and the smell of typical starch; Chewy and rough; savory taste of meat and salty.	4.75	4	Not Good
2	2	Grayish; The smell of meat and the smell of typical starch; Chewy; Savory taste of meat and salty.	4.25	5	Not Good
3	3	Grayish; The smell of meat and the smell of typical starch; The smell of meat and the smell of typical starch; Savory taste of meat and salty.	4.50	5	Not Good
4	4	White pale and grayish; The smell of meat and the smell of starch; Chewy and rough; Savory taste of meat and salty.	4.25	4	Not Good
	Average	Pale grayish; The smell of meat and the smell of starch; Chewy and rough, Savory taste of meat and salty.	4.43	4,5	Not Good

Based on Table 5, the results of the hedonic test and the average score shown is below 7.0.

**Results of identification of chemical quality of siomay snack food containing borax, formalin and rhodamine B**

Table 5. Recapitulation result of chemical quality inspection on siomay snack foods sold by street vendors/traders in town squares of Magetan, Ngawi, Ponorogo and Madiun

No	Specimen From:	Inspection Results			Quality Standard	Explanation
		Borax	Formaline	Rhodamin B		
1	Magetan Regency	Negative	Negative	Negative	Negative	Good
2	Ngawi Regency	Negative	Negative	Negative	Negative	Good
3	Ponorogo Regency	Negative	Negative	Negative	Negative	Good
4	Madiun City	Negative	Negative	Negative	Negative	Good
	Average	Negative	Negative	Negative	Negative	Good

From the result of the inspection of 4 food specimens of siomay snacks food showed negative result (Not containing borax, formalin and Rhodamine B dye), so that it is categorized good criteria.

### Microbiological Inspection Result of Quality of Siomay Snack Food

Table 6 . Results of germs inspection on siomay snack foods

No	Specimen Siomay From:	Germ Number (Kol/gram)	Quality Standard	Explanation
1.	Magetan Regency	230	100.000	Not Good
2	Ngawi Regency	300	100.000	Not Good
3.	Ponorogo Regency	350	100.000	Not Good
4.	Madiun City	300	100.000	Not Good
	Average	295	100.000	Not Good

From specimen of snack food of siomay from Magetan Regency which examined containing 230 kol / gram, Ngawi Regency of 300 kol / gram, Ponorogo regency of 350 kol / gram and town square of Madiun of 300 kol / gram. Means from the microbiology aspect of the whole specimen (4 specimens from 3 regencies and 1 administrative city) > 10.000 colony / gram = not good (exceeded the limit of the standard quality / did not meet the quality standard of the Decree of the Head of the Food and Drug Administration RI No. HK.00.06 .1.52.4011 of 2009 on Determination of Limit of Microbial and Chemical In Food Contamination.

### Recapitulation Result of Identification / Quality Analysis of Siomay Snack Foods Viewed From Physical, Chemical and Microbiological Aspects.

Table 7. Quality of siomay snack foods viewed from physical, chemical and microbiological aspects

No	Specimen Siomay From:	Category of Quality						Category of Consumption	
		Phisical		Chemical		Microbiological		Worthy	Not Worthy
		Good	Not Good	Good	Not Good	Good	Not Good		
1.	Magetan Regency								
2.	Ngawi Regency								
3.	Ponorogo Regency								
4.	Madiun City								

The result of physical examination is generally obtained not good result, chemical examination: good and microbiological examination the number of germs is not good, so siomay snacks food is generally stated Not Worthy consumed.

## DISCUSSION

### Physical Quality of Siomay Snack Food

#### a. Viewed from the traders knowledge aspect

According to The Regulation of Health Minister No. 304 / Ministry of Health / Per / IX / 1989, it is mentioned that food handler is a person who directly / indirectly related to food and equipment since the preparation stage, cleaning, processing, transporting up to the presentation<sup>(14)</sup>.

Traders or sellers of siomay snack foods in handling food service activities must meet the requirements that include: 1) Not suffering from easily spread / contagious diseases such as cough, colds, influenza, and diarrhea. 2) Closing the wound (on open wounds / ulcers / other injuries). 3) Maintain hand hygiene, hair, nails and clothing. 4) Wear apron and cover head. 4) Wash hands every time to handle food. 5) Touching food must wear equipment with handbag. 6) No smoking, scratching limbs such as ears, nose, mouth / other parts. 7) No coughing / sneezing in front of snack food sold / closing mouth and nose.

Food processing involves 4 aspects: 1) Food Handler. 2) Food Processing. 3) Food Processing Place. 4) Equipment used in Food Processing. Knowledge is the realization of the "know" and this happens after humans make sensations to a particular object. Occurs through the five senses of the human senses, that are sense of sight, smell, hearing, taste and touch<sup>(16)</sup>.

Much of human knowledge is obtained through the eyes and ears. Knowledge embodies the belief of an object that has been proved true. Knowledge / cognitive realizes the domain that is very important for the formation of one's actions (over behavior). The higher the education / knowledge of one's health, the higher the awareness to participate<sup>(16)</sup>.

## b. Viewed from merchant attitude

Attitude is the view / feeling followed by the tendency to act in accordance with the attitude of the previous object. Attitude is always directed towards a thing, an object. There is no attitude without object<sup>(17)</sup>. Attitudes contain three components that form the attitude structure that are:

- 1) Cognitive component (component perceptual) is a component related to knowledge, views, beliefs are things related to how humans who mempresepsi against attitude objects.
- 2) Affective component (emotional component), that is component related with pleasure / displeasure to attitude object. A sense of joy embodies a positive, while a sense of displeasure is a negative thing.
- 3) Conative component (component component / action component), that is component related to tendency to act / behave toward attitude object. A positive attitude will arise to positive behavior. Thus a good attitude would contribute to food traders / sellers in the behavior of clean and healthy life<sup>(18)</sup>.

## c. Viewed from the vendors action aspect

An attitude has not been automatically manifested in an action. Create the realization of attitude into a real action required supporting factors / a condition that facilitate it . In addition to facilities factor is also needed supporting factors from other parties, for example: old man, brother, husband, wife, and others, which is very important to support the action to be done. The level of action (practice) are:

- 1) Perception. Knowing and choosing various objects in relation to the action to be taken is to realize the first level of action.
- 2) Guided response. Can do something in accordance with the correct sequence in accordance with a certain criteria, for example is to realize the indicator of the action of the second level.
- 3) Mechanism . When a person is able to do something right automatically. It means that the thing has already manifests the habit. So someone considered has reached the third level of action.
- 4) Adaptation. Adaptation is a well-developed act, that action has been modified on its own without undermining the veracity of the action<sup>(16)</sup>.

Thus, from the aspect of knowledge, attitude and action of food vendors of siomay is categorized into good criteria . It is possibly that the siomay vendors ever joined the Course / Training of Food Sanitation. However based on the results of Physical Quality Recapitulation with Organoleptic Test (Descriptive Test, Hedonic Test And Score Test) on 4 food specimens of Siomay , the average description test shows : The pale gray appearance; The smell of meat and the smell of starch; Chewy and rough; Savory taste of meat and salty. While from the hedonic test results and average score shows below 7.0

So in the category of quality , siomay snack food otherwise is catogorized not good . It is possibly in the cooking process of siomay does not run the six principles of sanitation hygiene and never do the food inspection.

### Chemistry Quality of Siomay Snack Food

## a. Borax chemicals

The preservatives commonly used by the siomay vendors in making of siomay is borax . Giving borax to food can cause food to be more elastic so that feels good to eat. In general, consumers will find chewy foods than the soft and easily dispersed.

To avoid borax not used in the process of making food is not enough just by giving a ban. It is necessary to give periodical campaign on the dangers of borax, and it is necessary to find other alternative materials to substitute borax, the materials in which have the same usefulness as borax as save preservative added into food but not harmful to health.

The results showed that food vendors in four locations (100%) did not use the preservative of borax, this is evidenced from the laboratory results found no borax on food snacks of siomay. This is possibly happens because the aspects of knowledge, attitude and actions of siomay snack food vendors are categorized good, they have ever joined the course / training of food sanitation.

## b. Formalin chemicals

Formalin is a colorless solution and has a very pungent smell. Formalin contains the formaldehyde about 37% formaldehyde in water. Usually methanol is added up to 15% as a preservative.

The results showed that food sellers of siomay at four research sites (100%) did not use formalin preservatives, this is evidenced from the laboratory results did not find any formalin on food snacks of siomay. This is possibly happens because aspects of knowledge, attitude and actions of snack food vendors are categorized good, have joined the course / training of food sanitation.

### c. Chemical dye of rhodamine B.

Rhodamine B is a synthetic dye derived from methanlinilate and alanine-shaped crystalline powder, a purplish red color in soluble form at high concentrations and bright red at low concentrations. The results showed that food vendors in four locations (100%) did not use Rhodamine B, this is evidenced from the laboratory results did not find any dyes of Rhodamine B on siomay food. This is possibly happens because aspects of knowledge, attitude and actions of snack food vendors are categorized good, have followed the course / training of food sanitation.

### 3. Quality of Microbiology of Siomay Snack Food

The number of germs on siomay snacks in four research sites (100%) exceeded the quality standard, according to Tamaroh (2003), it is possible:

- a. Siomay Food Handlers / Vendors : In doing food handling service activities are not fulfil the requirements that include: 1) Lack of hand hygiene, hair, nails and clothing. 2) Do not wear apron and cover head. 3) Do not wash hands every time to handle food. 4) When touched food does not wear glove. 5) Sometimes scratching limbs such as ears, nose, mouth / other parts. 6) Sometimes coughing / sneezing in in front of the food without closing the mouth or nose nose.
- b. Food Processing: all food processing activities must be done in a way protected from direct contact between the handler and the food. While this requirement is not done by the siomay vendors.
- c. Place of Food Sevice: in terms of cleanliness place of food service less attention, because the location is on the edge of the streets. Bad and not ethical way in servicing food can reduce one's appetite and can also be the cause of contamination against bacteria.
- d. Equipments used in Food Processing: the equipments must be safe as a tool / equipment for food serving. Safe in terms of materials to make the equipmen as well as the design of the equipment itself<sup>(18)</sup>.

### The Relationship Between The Knowledge and The Attitude of The Trader/ Vendors in Relation to The Use of Borax, Formalin and Colorant of Rhodamine B.

To establish a good attitude towards the use of Borax, Formalin and Rhodamine B Dyes in the manufacture of food, food traders / vendors must have knowledge of the dangers of Borax, Formalin and Rhodamine B dye in siomay snack foods.

The results obtained that between the knowledge of the dangers of Borax, Formalin and Rhodamine B Dyes with attitudes toward the use of these three materials have a very close relationship.

In order to have a good attitude, in the sense of compliance with the rules, against the use of Borax, Formalin and Rhodamine B dyes in the manufacture of food snacks, food traders/ vendors already have a good knowledge about the dangers of Borax, Formalin and Rhodamine B Dyes in food. They have already had good understanding on the danger of Borax, Formalin and Rhodamine B Dyes as stated in the regulations.

### The Relationship between The Knowledge and Practice of Traders/ Vendors in Relation to The Use of Borax, Formalin and Rhodamine B. Dyes

The results showed that between the knowledge of the dangers of Borax, Formalin and Rhodamine B Dyes there was a significant relationship with the practice of making food snacks ( $p = 0.001$ ). In relation to the use of Borax, Formalin and Rhodamine B Dyes, knowledge of the hazards of borax and dye is urgently needed as a basis for the practice of making siomay snacks. With good knowledge of the dangers of Borax, Formalin and Rhodamine B Dye allows traders/ vendors to practice well in the manufacture of snack foods, in the sense of not using Borax, Formalin and Rhodamine B Dyes. To be able to practice making good siomay snack food, in the sense of not using Borax, Formalin and Rhodamin eB Dyes, siomay traders have already had good knowledge about the dangers of Borax, Formalin and Rhodamine B Dyes in the siomay food.

### The Relationship between Traders' Attitudes Toward The Use of Borax, Formalin and Rhodamine B Dye with The Practice of Making Siomay Snacks

The result of the analysis shows that there is a significant correlation between the attitude of food vendors to the use of Borax, Formalin and Rhodamine B dye with the practice of making siomay snack food ( $p = 0.001$ ).

In relation to the use of Borax, Formalin and Rhodamin B dye in the manufacture of siomay snack foods, attitudes towards the use of Borax, Formalin and Rhodamin B Coloring are important factors for the occurrence of the practice of making siomay food. In order not to use Borax, Formalin and Rhodamin B Dyes, the traders already have a good attitude towards the use of Borax, Formalin and Rhodamine B Dyes, in the sense of not wanting to use Borax, Formalin and Rhodamine B dyes B in making siomay snack food.

### **The Relationship between The Level of Education of Traders with The Occurrence of Contamination of Toxic Substances Borax, Formalin and Rhodamin B dye on Siomay Snack Food**

In general, the siomay traders / vendors were the graduation of Junior and Senior High School, so they have a wide range of skills in cognitive, affective, and motoric. Cognitive ability is related to knowledge and thinking ability. Affective ability is related to attitude. While motoric skills related to the action or practice. The higher the education level of the traders/ vendors the higher ability they acquired. Conversely, the lowest education level of someone the less ability he/ she gets. With high capabilities allows traders/ vendors to develop their knowledge, attitudes, and practices in their professions.

### **The Relationship between The Traders' / Vendors' Knowledge with The Occurrence of Contamination of Toxic Substances of Borax, Formalin and Rhodamine B Dye in Siomay Snack Food**

No occurrence of contamination of toxic substances of Borax, Formalin and Rhodamine B dyes in siomay snack food due to the practice of making siomay food the vendors have already know Borax, Formalin and Dyes of Rhodamine B are harmful materials. This happens because the traders' knowledge about the dangers of Borax, Formalin and Rhodamine B dye is good. The higher of the traders' knowledge about the dangers of Borax, Formalin and Rhodamine B Dyes the better practices they do in making siomay food, in the sense of less of using borax and prohibited dye. Thus the occurrence of contamination of toxic substances of Borax, Formalin and Dye of Rhodamine B in siomay snack food can be avoided.

### **The Relationship between Traders' Attitudes with The Occurrence of Borax, Formalin and Rhodamine B Dye Contamination in Siomay Snack Foods**

The attitude of traders who do not like or approve the use of Borax, Formalin and Dyes Rhodamine B then influence their practices of making siomay food. They do not use Borax, Formalin and Dyes Rhodamine B in their food product, in this case is siomay. Thus there will be no contamination of toxic substances of Borax, Formalin and Rhodamine B dye in siomay food. Between the attitudes toward the use of Borax, Formalin and Rhodamine B dyes in the production of food have a close relationship with no occurrence of contamination of toxic substances of Borax, Formalin and Rhodamin B dye on siomay snack foods. The better the attitude of traders in the use of Borax, Formalin and Rhodamine B dyes in the production of the snack foods, meaning that they have followed what expected in the regulations. So the occurrence of contamination of toxic substances Borax, Formalin and Dyes Rhodamin B on siomay snack food can be reduced.

### **The Relationship between The Practice of Making Food Snacks with The Occurrence of Contamination of Toxic Substances Borax, Formalin and Dyes Rhodamin B on Food Snacks Siomay**

The practice of making good snacks food, in the sense obeying to the regulations, the possibility of contamination of toxic substances Borax, Formalin and Dyes Rhodamine B on food snacks become smaller. Practice is a real action that the traders do on an object. What happens to an object depends on the practice being done. So practice is the direct cause of the occurrence of an event. If in the practice of making snacks food the traders do not use Borax, Formalin and Rhodamine B dye, then there will be no contamination of toxic substances of Borax, Formalin and Rhodamine B Dyes in food.

No occurrence of contamination of toxic substances of Borax, Formalin and Dyes of Rhodamine B in siomay food has a close relationship with the practice of making food by street vendors.

### **Risks of Contamination of Toxic Substances Borax, Formalin and Rhodamin B Dyes on Siomay Snack Foods**

Good food-making practices also have less risk of contamination than poor practices. Education, knowledge, attitude, and practice are 4 related factors. Education allows traders to gain knowledge. With the knowledge of traders can shape attitudes. Further attitude will affect the practice. As a result of the practice there will be a symptom. The higher a person's education, the better his/her knowledge. With good knowledge he/she will form a good attitude. This good attitude will lead to good practice. Thus the result will be good. The level of education, knowledge, attitude, and practice is an important factor in order to avoid contamination of toxic substances of Borax, Formalin and Rhodamine B dye on siomay snack foods.

## **CONCLUSION**

1. Siomay snack foods are not contaminated with toxic substances of Borax, Formalin and Rhodamine B



- dyes.
2. Characteristics of 100% traders: men (aged between 40 to 43 years), upper secondary education level, knowing the dangers of Borax, Formalin and Rhodamine B Dyes. They knew and understood the regulations, and in the practice of making siomay food snacks they do not use chemicals. The practice of making siomay snack foods in relation to the use of chemicals is categorized into Good category.
  3. There is a significant relationship between the levels:
    - a. Knowledge with traders' attitude.
    - b. Knowledge with traders' practices / actions.
    - c. Traders' education with the absence of contamination of toxic substances.
    - d. Knowledge with the absence of contamination of toxic substances
    - e. Attitude with the absence of contamination of toxic substances.
    - f. Practice with the occurrence of contamination of toxic substances.
    - g. The level of education, knowledge, attitude, and practice of siomay food traders/ vendors is a risk factor for the absence of contamination of Borax, Formalin and Rhodamine B dye in siomay foods.

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