Environmental health knowledge factors have no effect on the formation of environmental vegetable farmers' behavior in Padang city

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Abstract. The Food and Drug Supervisory Agency of the BPOM Republic of Indonesia reports that cases of extraordinary events (KLB) of food poisoning have caused the deaths of 2500 people and as many as 411,500 sick people annually. Responsibility and awareness of producers and distributors on food security is not adequate. The results of testing vegetables and fruit samples in 2017 found 17.56% containing pesticide residues. The lack of consumer concern about food security is reflected in the small number of consumers who demand producers to produce safe and quality food products. A model is needed in the formation of community behavior, especially farmers who produce vegetables in West Sumatra because they are far from being environmentally sound. The study of the formation of farmers' behavior in producing safe and quality vegetables needs attention. In this article, more emphasis is placed on analyzing the influence of environmental health knowledge on the formation of environmentally sound behaviors of vegetable farmers in the city of Padang. The model used is a model of analysis, design, development, implementation and evaluation (ADDIE) conducted in Kuranji, Koto Tangah and Nanggalo Padang sub-districts. Based on the needs, it is done with a module, the video contains an explanation of the behavior of farmers, environmentally friendly behavior by farmers, technically, the benefits of environmentally friendly behavior by farmers. The results of the study concluded that there was no influence on the behavior formation model of environmentally sound vegetable farmers on increasing environmental health knowledge.

1. Introduction
The Food and Drug Supervisory Agency of BPOM of the Republic of Indonesia in 2018 reported that cases of extraordinary events (KLB) of food poisoning had caused the deaths of 2500 people and as many as 411,500 sick people each year. Responsibility and awareness of producers and distributors on food security is not adequate. The results of testing vegetables and fruit samples in 2017 found 17.56% containing pesticide residues. The lack of consumer concern about food security is reflected in the small number of consumers who demand producers to produce safe and quality food products. A model is needed in the formation of community behavior, especially farmers who produce vegetables in West Sumatra because they are far from being environmentally sound. Efforts to control pesticide use at the farm level are still inadequate. Data from the monitoring of the West Sumatra Health Office until 2010 revealed that the impact of pesticide poisoning on farmers was 45.3% recorded in the normal category, 39.5% mild exposure, 12.8% moderate and 2.4% heavy exposure. in producing safe and quality vegetables need attention. The behavior formation of environmentally friendly vegetable farmers needs to be equipped with modules in forming habits, providing understanding and through examples and actions [1]
Bad behavior Farmers are found in all stages of pesticide handling, starting from the selection stage of pesticides, pesticide storage, spraying practices in the field to the stage of pesticide disposal. The impact of these uses can be in the form of ecosystem instability, the presence of residues in crops and their processed materials, environmental pollution, poisoning, even death in humans. The danger of poisoning and the potential for environmental pollution is the accumulation of poor handling behavior [2]. In addition to carelessness when using pesticides, another threat that can cause poisoning is disobedience or behavior that underestimates the adverse effects of pesticides on health [3]. But this risk can be minimized if it is known the behavior and ways of working that are safe and do not interfere with health such as obeying the established procedures [4].

In addition to activities in eradicating pests using pesticides, the use of fertilizer is also an important behavior in determining the success of an agricultural business, both in quality and quantity. The effectiveness of fertilizer (the impact of fertilizer on production) is very important for around 93% of farmers. The effectiveness of fertilizer can be influenced by the dosage and method of applying fertilizer in production. This affects plant growth along with weather, irrigation and agricultural management factors. On the other hand, the more often a farmer buys a particular product and manages to increase its production, his confidence will increase towards the product. Farmers who get experience of using certain fertilizers will reduce information seeking behavior for alternative choices of other fertilizer products. [5] states that farmers who have successful experience in the use of certain types of fertilizer will tend to use this type of fertilizer for production in the next period, so that the farming community in general is difficult to move in the use of certain types of fertilizers for a long time and is believed can increase their agricultural production [6].

Farmers assume that changes in the use of fertilizer products will provide risks because the consequences of these changes cannot predict better production. In Supadma's research [7], since 1984 the use of artificial (inorganic) fertilizers by farmers in Indonesia seems very dominant to increase agricultural yields in real and fast. On the contrary, farmers almost forget the role of organic fertilizer because the response is slow in increasing yields. As a result of continuous fertilization with inorganic fertilizer, soil fertility will decrease, especially K elements in inorganic fertilizer (N, P, K) [8], soil hardening occurs [9], so the quality and productivity of land also will decrease [10]. In addition to being accustomed to using inorganic fertilizers, farmers also prefer to provide higher fertilization than what is needed by plants, so that it can pollute the environment, especially ground water and stimulate the growth of weeds.

2. Experimental Method
The design in this study with correlational studies wants to know the extent of the relationship between the level of knowledge / influence of health knowledge on changes in vegetable behavior. The research sample was taken from the population of vegetable farmers in 4 sub-districts namely Nanggalo sub-district, Kuranji sub-district, 108 Koto tangah sub-districtsA subsection

Some text.

The behavior of these farmers can be seen from the way farmers use, preserve and manage the environment. Establishing environmentally sound behavior can be done by forming habits, providing understanding, and examples of action through agricultural counseling. The indicators used are planning in conducting farming activities ranging from seed selection, fertilizer use, land management, water utilization, eradication of pests and diseases, pesticide use and post-harvest treatment. In this study, farming activities that were the main focus were the activities of farmers in the use of pesticides, the use of fertilizers and the use of water (watering and washing vegetables).

Farmers' environmentally sound behavior, can be known through filling out questionnaires, observations or observations, and interviews. Indicators of filling out questionnaires are assessed based on the Linkert scale where the alternative answers from the questionnaire are always (score 5), often (score 4), sometimes (score 3), rarely (score 2) and never (score 1). Then tested the validity and reliability to determine the level of validity and reliability (reliability) of the questionnaire.
Knowledge about environmental health is the knowledge of farmers on health including the dangers and impacts of the use of hazardous materials in agriculture or environmental sustainability. This is especially the case for vegetable processing related to fertilizer application, pesticide use which is often carried out without rules, washing vegetables harvested without regard to water quality, and vegetable cultivation by farmers in the gutters around the residence.

3. Result and Discussion

Vegetables consumed by people in the city of Padang are mostly agricultural products that still use inorganic fertilizers and pesticides. The lack of awareness of the community and vegetable farmers in choosing and managing the land is assumed to have a negative impact on the health of the farmers themselves and the health of consumers or the community.

In this article more emphasis is placed on analyzing the influence of environmental health knowledge on the formation of farmers’ environmentally sound behaviors as shown in table 1.

| Variable | Frequency (f) | Percentase (%) |
|----------|---------------|----------------|
| Less     | 29            | 26,9           |
| sufficient | 62          | 57,4           |
| Good     | 17            | 15,7           |

Reliability testing is carried out on the question items that are declared valid. A variable is said to be reliable or reliable if the answers to questions are always consistent. So the result of the environmental health knowledge instrument reliability coefficient is 0.922 as shown in table 2.

Pre-test was carried out to 108 respondents (vegetable farmers) in Kuranji Subdistrict, Koto Tangah Subdistrict, and Nanggalo Subdistrict using questionnaires with variable farmers’ knowledge about environmental health, motivation for healthy living, family environment and environmentally sound behavior. The table 3 are the results of the pre-test.
contain chemicals. In addition, farmers also know enough that always interacting with chemicals can cause health problems to themselves.

This trial was conducted twice, post-test I and II. The table 4 are the results of the model trials in the pre-test, post-test I and II.

| Variable                      | Pre-test | Post-test I | Post-test II |
|-------------------------------|----------|-------------|--------------|
| knowledge of environmental    |          | f (%)       | f (%)        |
| health                        |          | f (%)       | f (%)        |
| Less                          | 29 (26,9)| 16 (14,8)   | 1 (0,9)      |
| sufficient                    | 62 (57,4)| 60 (55,6)   | 43 (39,8)    |
| Good                          | 17 (15,7)| 32 (29,6)   | 64 (59,3)    |

Table 4 show the independent variables of environmental health knowledge have no significant effect on the dependent variable environmentally sound behavior at alpha 5%. When viewed from the relationship between the independent variables and the dependent variable, the determination coefficient obtained is 48%. This means that the relationship between the independent variable and the dependent variable is weak.

4. Conclusion
The results of the study concluded that there was no influence on the behavior formation model of environmentally sound vegetable farmers on increasing environmental health knowledge. Based on analysis of the result also shows that aspects of knowledge do not significantly influence the formation of environmental behavior of farmers.

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