
The Effect of Extension with Audio Visual Method on The Improvement of Knowledge Levels and Attitude of The Use of Borax In The Making of Gendar Crackers in Family Households

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ABSTRACT

Background: Food is one of the basic important of human needs. Since the mid-20th century, the role of food additives, particularly preservatives are becoming increasingly important in line with advances in production technology of synthetic BTP (food additives). The use of BTP often adverse effects on health. Some of the causes were the use of non-organic materials due to economic reasons. The lower public's knowledge about quality and safety of food led to rampant cases of food poisoning. This compounded with various kinds of food additives (BTP) are derived from chemical products and its derivatives. Cracker was one of snack that much-loved by the majority of Indonesian people. On making of Crackers both the traditional and the modern are often added borax as a food additive that was felt to be more savory crackers and crunchy. This research aimed to examine the influence of counseling with audio-visual method on the improvement of knowledge and attitude of use borax on making gendar crackers family households in Kategan, Patalan, Jetis, Bantul, Special Region of Yogyakarta Province. **Methods:** This research used quasi experiment type with the design of one group pretest - posttest. The samples were housewives in the Kategan, Patalan, Jetis, Bantul. **Results:** There was a difference of housewife's knowledge in Kategan on the use of borax on making gendar crackers between before and after counseling with audio-visual methods which seen by a mean value of 6.64 pre-test and 6.92 for post-test average with -1.238 as mean difference. Based on the results of Wilcoxon test obtained p-value of 0.216 (H₀ was accepted). While the mean, obtained on the attitude of the pre-test of 10.28 and the mean of post-test of 11.19 with a mean difference of -2.018. The p-value was 0.044 (H₀ was rejected). **Conclusion:** There was no effect of counseling with the use of audio-visual methods in use of borax on making gendar crackers on the knowledge. Whereas there was influence of counseling with the use of audio-visual methods in the use of borax on making gendar crackers on the attitude.

Keywords: knowledge, attitudes, audio visual, borax

INTRODUCTION

Food is a basic human need. Generally, the processing did not require a complex level of technology and mastery of knowledge. Almost anyone can start a business or food industry. Food quality is the things that make a food product better and more delicious to eat in relation to taste, color, texture, and other quality criteria, such as choice, size, functional properties, and nutritional value and others.⁽¹⁾ The issue of food safety is a problem where food causes harm to consumers when it is prepared and consumed and it remains a public concern throughout the world.⁽²⁾ Safe and healthy snacks define as snacks that are free from physical hazards, chemical contamination, and biological hazards. Quality snacks are generally determined based on taste, color, texture, and nutritional value. Taste and shape are important factors that influence consumer acceptance of food products. This is due to the fact that consumers always associate the color and taste of food with other qualities such as freshness, maturity, and food safety.⁽³⁾ The use of Food Additives (BTP) or often referred to as food additives often has a negative impact on health. Some contributing factors are the use of material that is not actually for food, for economic reasons. For example, the use of textile dyes for food ingredients is because they are cheaper than food coloring and the lack of socialization about the dosage of benefits, and the dangers of incorrect use of additives.⁽⁴⁾ The lower community knowledge about food quality and safety has led to widespread food poisoning. This is compounded by various types of food additives (BTP) sourced from chemical compound products and their derivatives. False practices have caused frequent chemicals that are prohibited from being used in food, such as formaldehyde, borax, and textile coloring into food.⁽⁵⁾

Crackers are one of the most popular snacks among most of Indonesian people. Crackers are very diverse in shape, size, smell, color, taste, crispness, thickness, nutritional value and so on. This difference can be caused by the influence of the culture of the area producing crackers, raw materials and additional materials used and the tools and methods of processing. In general, the raw material used is tapioca flour, while other ingredients such as fish or shrimp, eggs, salt, sugar, water and seasonings (purified onions, shallots, coriander, etc.) are additional

ingredients that vary greatly depending on their tastes-easing.⁽⁶⁾ Making crackers both traditional and modern often adds borax as a food additive so that the crackers feel more savory and crispy.⁽⁷⁾ Borax (Na₂B₄O₇) is a food additive, which is a substance that added and mixed into food's ingredients during food processing with a view to preserving food and as a thickener that is widely used in making various family foods such as gendar crackers. The purpose of adding borax to the food processing process is to increase suppleness, crispness, as well as provide a savory taste and density, especially in foods that contain starch.⁽⁸⁾ Bantul is one of the districts in Yogyakarta Province where the population is spread in various hamlets. Kategan, Patalan Jetis Bantul is a hamlet that has a diverse community of backgrounds, ranging from the livelihood of farmers, trading and even employees. The level of education also varies from elementary school level to graduate level. The results of a preliminary survey conducted in Kategan Hamlet, Patalan Jetis, Bantul by using interviews and direct observation of housewives showed that 8 out of 10 housewives often use leftover rice to make gendar crackers. This leftover rice is yesterday's rice left the next day or leftover rice because on the previous day there were many celebrations. The housewife uses borax or often referred to as "bleng" in making gendar crackers. Based on the results of the interview, all housewives did not know that the block that they often used was borax and did not know that the material was banned because it had a negative effect on health. They also stated that in the hamlet they were never given information about food additives from the relevant department. The purpose of this study was to determine the effect of counseling with audio-visual media on increasing knowledge, attitudes and behavior of the use of borax in the making of gendar crackers housewives in Kategan, Patalan Jetis, Bantul.

METHODS

This research was a quasi experiment with a one group pretest-posttest design in which this study did not use a comparison group (control). The sample of this study were 36 housewives living in Kategan, Patalan Jetis, Bantul. Samples were taken by purposive sampling, with inclusion criteria including housewives who reside in Kategan, Patalan, Jetis, Bantul; present in the extension activities; once made gendar crackers from leftover rice. The research instrument was a questionnaire consisting of a knowledge questionnaire about the use of borax in making gendar crackers and an attitude questionnaire about the use of borax in making gendar crackers. The number of questions used in the knowledge questionnaire was 9 questions and the attitude questionnaire were 15 questions. The intervention in this study was counseling with the help of intervention media namely audio visual in the form of Movie Maker about the use of borax in the addition of food ingredients. Analysis of the data used is descriptive analysis and bivariate analysis with Wilcoxon test.

RESULTS

Characteristics of Respondents

The characteristics of housewives who became respondents in this study based on age, education and occupation can be seen in table 1.

Table 1. Characteristics of research respondents by age, education and occupation

Variable	Frequency	Percentage
Age (years old)		
21 – 30	5	13.9
31 – 40	10	27.8
41 – 50	15	41.7
51 – 60	6	16.7
Level of education		
Elementary School	16	44.4
Junior High School	13	36.1
Senior High School	6	16.7
University	1	2.8
Occupation		
Laborers	18	50.0
Farmer	1	2.8
Housewives	13	36.1
Merchant	1	2.8
Craftsman	1	2.8
Entrepreneur	2	5.6

Based on Table 1, the results of a study of 36 respondents, the age range of them showed in 21 to 60 years old. Among them, the majority were in range 41 - 50 years, by 15 people (41.7%). The level of education showed the majority of them attended the elementary school as many as 16 people (44.4%) and Junior High School as many as 13 people (36.1%). The employment status was revealed that the majority of respondents have jobs as laborers, by 18 people (50.0%) while housewives as many as 13 people (36.1%).

Descriptive Analysis

The results of descriptive analysis to see the level of knowledge and attitudes of housewives before and after counseling interventions with audio visual methods can be seen in table 2.

Table 2. Results of descriptive analysis of knowledge and attitude level before and after counseling with audio visual method

Variable	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Knowledge				
Good	17	47.2	23	63.9
Not good	19	52.8	13	36.1
Attitude				
Good	19	52.8	26	72.2
Not good	17	47.2	10	27.8

Based on univariate analysis, it was seen that the level of respondents' knowledge about the addition of borax in the manufacture of crackers increased. Before the intervention of respondents with good knowledge amounted to 17, increased to 23 respondents after the intervention. As for the attitude of respondents about the addition of borax in the manufacture of crackers, there was an increase from 19 respondents who behaved well to 26 respondents after an intervention with counseling with audio visual media. This was inversely proportional to the level of knowledge and attitude that is not good, because it has decreased.

Bivariate Analysis

Bivariate analysis was used to test the hypothesis between two variables, namely one independent variable and one dependent variable. The bivariate analysis used in this study was to determine the effect of counseling with audio visual methods on the use of borax in making gendar crackers on the knowledge and attitudes of respondents regarding the use of borax in making gendar crackers before and after intervention.

Table 3. Wilcoxon test results level of knowledge before and after counseling with audio visual methods in Kategan, Patalan, Jetis, Bantul

Categories	Median (minimum-maximum)	Mean ± SD	P-value
Pre-Test	6.00 (5-9)	6.64±1.199	0.216
Post-Test	7.00 (3-9)	6.92±1.519	0.216

The results in table 3, it was known that the number of each respondent at the time of Pre-Test and Post-Test was the same, by 36 people. Based on the value of the Mean Pre-Test was 6.00 and the Mean Post-Test was 7.00, it can be seen that there was an increase in respondents' knowledge after counseling with the audio-visual method. Based on the results of alternative / nonparametric tests (Wilcoxon Test) with a Probability value of 0.216 ($0.000 > 0.05$), H_0 was rejected. This shows that there was no significant effect on counseling with audio-visual methods about the use of borax in the manufacture of gendar crackers for housewives in Kategan.

Table 4. Wilcoxon test results attitudes before and after counseling with audio visual methods in Kategan, Patalan, Jetis, Bantul

Categories	Median (minimum-maximum)	Mean ± SD	P-value
Pre-Test	11.00 (4-14)	10.28±2.514	0.044
Post-Test	12.00 (7-13)	11.19±1.849	0.044

As for the attitude of respondents towards the use of borax, it was found that the Mean Pre-Test is 11.00 and the Mean Post-Test is 12.00. It can be seen that there is an increase in respondent's knowledge after counseling with the audio-visual method. Based on the alternative / nonparametric test results (Wilcoxon Test) with a Probability value of 0.044 ($0.000 < 0.05$), H_0 is accepted. This shows that there is a significant influence on counseling with audio-visual methods about the use of borax in the manufacture of gendar crackers for housewives in Kategan.

DISCUSSION

Effects of Counseling with Audio Visual Methods on Knowledge Level

Based on the results of statistical tests using the Wilcoxon test, it was found that there was no significant effect on counseling with audio visual methods about the use of borax in the manufacture of gendar crackers for housewives in Kategan. However, it appears that there was an increase in the level of knowledge before and after the intervention. At the time of conducting the research, the researcher supervised the respondents in filling out the questionnaire, this was intended so that the research results obtained accurate data results. Likewise, during counseling, respondents were made interested and as comfortable as possible to attend counseling. Increased respondents' knowledge of the use of borax in making gendar crackers is inseparable from the preparations made by researchers. In choosing media as part of the method used was one of the factors so that an increase in respondents' knowledge about the use of borax in the manufacture of gendar crackers. The choice of media that was used as an intervention to conduct health promotion must include several aspects so that the intervention media used can be easily accepted by respondents. Props (audio visual aids) are all things that can be used to channel messages from the sender of the message (extension) to the recipient of the message (target) so that they can explain the thoughts, feelings, concerns, and interests of the target in such a way that there is an understanding, understanding, and appreciation from what was explained.⁹ Audio-visual media or often known as Audio Visual Aids (AVA) can facilitate the reception of information. According to the research of the sense's experts, the most widely channeling knowledge into the brain is the eye, approximately 75% to 87% of human knowledge is obtained / channeled through the eye, while the other 13% to 25% is channeled through other senses.¹⁰ Probability value (Wilcoxon Test) on knowledge is 0.216 ($p\text{-value} > 0.05$) it can be stated that there is no significant effect on counseling with audio visual methods with the level of knowledge about the use of borax in the manufacture of gendar crackers. This is supported by the educational background of the respondents, most of whom only graduated from elementary and junior high school, where the respondents have lack of knowledge about the use of borax in the manufacture of gendar crackers. The results of this study are in accordance with previous research, which suggests that the relationship between the highest education level of the head family with clean and healthy living behaviors has an exponential relationship with health level.¹¹ This study is not in line with previous research, which states that training and counseling can improve safety practices in food handlers.¹² Food safety knowledge and practices from food handlers increased significantly after the intervention. A large number of food handlers have begun to use soap to wash their hands.¹³

The Effect of Counseling with Audio Visual Methods on Increasing Attitudes

Statistical test results found that the Probability value (Wilcoxon Test) on attitude is 0.044 ($p\text{-value} < 0.05$). This shows that there is an effect of counseling with audio visual methods on the use of borax in the manufacture of gendar crackers. The effect of counseling with audio visual method can support the increasing attitude of a respondent in the use of borax in the manufacture of gendar crackers. This finding also supported by the social interaction experienced by each individual, whereas social interaction can be formed from personal experiences, influences from others who are considered important, mass media and electronic media such as audio visual which is one of the educational medias that is very easily accepted by respondents in conveying information. Audio visual is the choice as an intervention tool which is considered more effective to be used in this counseling. This result is supported by the characteristics of the age of respondents who showed they were aged > 31 years. The result above is in line with the theory which states that attitude is a reaction or response that is still closed from someone to stimulation or object. Attitudes are influenced by stimuli and stimulation processes. Thus, counseling with audio visual methods has provided stimulus and stimulation for housewives to improve attitudes related to the use of borax in making gendar crackers.¹⁰ Health promotion of audio visual (see-hear) method is more stimulating in the delivery of messages / information delivered because respondents can see and also listen to the contents of the message. According to the theory, it is found that reading will remember 10% of the material read, hearing will remember 20% of what was heard, seeing will remember 30% of what was seen, heard and seeing will remember 50% of what was heard and seen.⁹ Through attitude, it can be understood the process of awareness that determines the real actions and actions that might be carried out by individuals in their social life. The cognitive component that can shape a person's attitude related to knowledge,

views and beliefs will be related to perceptions of attitudes. The more positive the respondent's attitude towards the selection of food additives, the higher the quality of the health content of food, and conversely the more negative the respondent's attitude towards the selection of food additives, the worse the quality of the food health content for the family. Previous research examines awareness and attitudes towards food additives in middle school students where the majority does not know food additives used in processed foods and almost does not recognize food additive information on product labels. The study also states the need for better consumer education and education about food additives.¹⁴ Other studies have shown that respondents' suspicions about food additives approved by the government stem from a lack of information and misconceptions about food additives, as well as a lack of clarity in risk communication among stakeholders such as government, industry, and consumers.¹⁵ This is almost the same as the conditions in Indonesia, which found that borax is not allowed to be added to food, because it is not a food additive. However, apparently borax is still traded in the community and at very affordable prices.

CONCLUSION

The conclusion in this study revealed that there was no affect of knowledge between before and after counseling by audio-visual method with the use of borax in process of gendar crackers in Kategan, Patalan Jetis, Bantul. Additionally, there was any influence of attitude before and after counseling by audio-visual method with the use of borax in process of gendar crackers.

The District Health Office is hoped to do the socialization and counseling of health continuously to housewives in particular in selection of ingredients and additive materials process (BTP) such as the use of borax ("Bleng") in the process of gendar crackers. It is very important to educate people to be more selective in term of make and choose the materials additive.

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