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Original Article

Assessment of Kanium Seasoning Tea Product by Using Organoleptic Method

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Abstract

Introduction: The high prevalence of diabetes mellitus (DM) and hypercholesterolemia increases complications of diseases such as heart disease, stroke, erectile dysfunction, kidney failure, and nerve system damage. People often combine non-pharmacological therapies with pharmacological therapies, such as consuming processed traditional plants. Coriander and cinnamon are traditional plants that have long been consumed by Indonesians as a health drink that has many benefits for the body. **Objective:** The objective was to learn the panelists' assessment of Kanium Seasoning Tea products that can help lower blood sugar levels in people with diabetes**. Results**: The research method was the Descriptive Analytic and Organoleptic Test, which is a way of knowing the response of panelists to Kanium Seasoning Tea products with four parameters, namely color, scent, taste, and texture, through hedonic tests, which is a test carried out on 28 panelists to determine the level of consumer acceptance of the product, with a scoring score of 1–5. Based on the taste of Kanium Seasoning Tea, 28 panelists (100%) said Very Like; based on color, 27 panelists (96.4%) said Very Like and 1 panelist (3.6%) said Like; based on scent, 24 panelists (85.7%) said Very Like and 4 panelists (14.3 %) said Like, and lastly, based on the texture of Kanium Seasoning Tea, 24 panelists (85.7%) said Very Like and 4 (14.3%) panelists said Somewhat Like. **Conclusion**: The result of the research is expected to be used as a complementary therapy which accompanies pharmacological therapy in patients with diabetes.

Keywords: *Diabetes Mellitus, Hypercholesterolemia, Kanium Seasoning Tea*

Introduction

The prevalence of diabetes mellitus (DM) is increasing every year in Indonesia (Awad *et al.,* 2022). The biggest cause of DM is lifestyle. It is estimated that 50% of people with DM have not been diagnosed in Indonesia. In addition, only 2/3 of diagnosed patients get both non-pharmacological and pharmacological treatment, and only 1/3 of those who get well-controlled treatment (Perkeni, 2015). DM is divided into 2 types, which are DM type 1 and type 2. DM type 2 is the most common disease found in the community (Ashar, Miller & Sisson, 2016). Diabetes mellitus has a broad range of complications (Kumar *et.al.*2020). Diabetes cases continue to increase and burden the nursing system worldwide (Kamillah *et.al.*2022). Diabetes is now becoming a leading cause of death all over the world (Zaman *et.al*.2022)

Symptoms of increasing blood glucose levels (hyperglycemia) are a main indication of diabetes mellitus. The World Health Organization (WHO) predicts an increasing prevalence of DM in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030, while the International Diabetes Federation (IDF) predicts an increasing prevalence of DM sufferers in Indonesia from 9.1 million in 2014 to 14.1

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million in 2035. Indonesia is in the 7th rank for the highest prevalence of DM sufferers in the world, with 10 million cases (International Diabetes Federation, 2017).

The data that was gotten from Health Services sector of Pekanbaru Health Office which is from January to December 2017 found that DM was ranked 3rd after ARI and hypertension from the top 10 visits to non-contagius disease cases in health centres throughout Pekanbaru in 2017 with a total of 19,093 people where Rejosari Pekanbaru Health Service was ranked first for the number of visits with DM patients, namely 2428 people from the 10 biggest diseases in 2017 (Rejosari Public Health Service, 2018). The increasing of the DM phenomenon is caused by unhealthy lifestyles such as poor diet, rarely exercising, being obese, and high cholesterol levels in the body (Russel, 2011; Yuhelma & Hasneli, 2009). They conducted research about "The effect of a health belief model on dietary behaviour to prevent complications of DM type 2", which states that the increase of DM patients in Pekanbaru is due to the majority of Minang and Malay ethnic groups who like to consume coconut milk, oily food, less vegetables, and rarely exercise. Hasneli also conducted a study in 2018 which stated that blood sugar levels in diabetics in Pekanbaru were very high at 271.62 mg/dl (Yuhelma & Hasneli, 2009).

The increase in the number of DM causes an increase in DM complications. Complications of DM are divided into two groups, namely microvascular complications and macrovascular complications (Naserrudin *et al.,* 2022). Microvascular complications are forms of retinopathy, neuropathy, and nephropathy. While macro vascular complications such as heart disease, kidney failure, gangrene, strokes etc. This gangrene occurs due to blockage of large blood vessels in the lower extremities, so many DM patients have to lose their legs because they have to be amputated (Yuhelma & Hasneli, 2009). Treatment of DM can be done through pharmacological and non-pharmacological treatments (Krisnatuti, 2014). One of the non-pharmacological treatments that is often used is taking herbal medicines. Oral and injectable synthetic drugs that are currently used are relatively expensive and have side effects that are detrimental to health (Amirudin *et al.* 2019). One of the herbal medicines that can overcome hyperglycemia is Kanium Seasoning Tea (Cinnamon, coriander tea).

Cinnamon is a spice commonly used by people for daily life, such as flavouring dishes and drinks. The chemicals that are contained by cinnamon, including cinnamaldehyde and Methylhydroxy Chalcone Polymer (MHCP), which is a polyphenol (flavonoid) that works like insulin (Emilda, 2018; Arini & Ardiaria, 2016), examined the effects of steeping cinnamon powder (*Cinnammomum zeylanicum*) on fasting blood glucose levels 2 hours postprandial in type 2 diabetes mellitus patients. The results obtained *p* value 0.001 (0.05), which means there is a significant correlation in patients who drank 10 grammes of cinnamon powder twice a day, which their blood sugar decreased (Ariani, 2016).

Coriander (*Coriandrum sativum*) is another traditional plant which has the effect of lowering cholesterol levels (Sobhani *et al.*, 2022). Controlling cholesterol levels effects controlling blood sugar levels in the body because cholesterol levels are one that affects insulin work, so if cholesterol levels are high it will interfere with insulin work and result in high blood sugar levels. Palm sugar is good for people with diabetes because it does not contain glucose, which can increase blood sugar levels, but contains sucrose, which can reduce blood sugar levels.

The first year of research of Kanium Seasoning Tea on diabetics was conducted using the quasi-experimental research method by dividing 40 respondents into 2 groups: group A (experimental group) and group B (control group). The results of this study showed that after 3 days of drinking Kanium Seasoning Tea, people in the experimental group had lower blood sugar and cholesterol levels on average, with a p value of 0.001 for blood sugar and 0.012 for cholesterol (0.05).

As a continuation of the first year of the research, in the second year, the researchers are making Kanium Seasoning Tea packaging (box-shaped and filled with 12 sachets of Kanium Seasoning Tea), socializing about Kanium Seasoning Tea, producing Kanium Seasoning Tea and being marketed. The reseach in the second year were carried out using the Focus Group Discussion (FGD) method.

In this study, researchers have made tea sachets (Kanium Seasoning Tea) that are ready to be brewed, which aim to help people with diabetes to reduce their blood sugar and cholesterol levels. If DM sufferers get their cholesterol increased, it will interfere with insulin's work, which its functions to lower blood sugar levels in the blood. One sachet of Kanium Seasoning Tea contains cinnamon, coriander, and palm sugar. These three ingredients of Kanium Seasoning Tea have an effect on lowering blood sugar and cholesterol.

The purpose of this study was to reduce blood sugar levels in people with diabetes mellitus, reduce cholesterol in patients with hypercholesterolemia, and make Kanium Seasoning Tea packaging (a box containing 12 sachets). The output of the research product is Kanium Seasoning Tea (Coriander Cinnamon Tea), which is brewed tea, wrapped in tea bags (sachets) filled with cinnamon, coriander, and palm sugar. Kanium Seasoning Tea can be consumed 1-2 times a day, brewed with hot water and left for 3 minutes to dissolve. There are 12 sachets of Kanium Seasoning Tea in a box. The box design is in the form of a Riau Malay songket motif to introduce Malay songket and preserve Malay culture as a national culture.

This study has been tested on patients with diabetes mellitus and hypercholesterolemia in the working area of Rejosari Health Center Pekanbaru. In the second year, it continued with organoleptic tests and the manufacture of Kanium Seasoning Tea, as well as packaging of Kanium Seasoning Tea, then socialisation to many health centres in Pekanbaru and to the public and making stickers for the marketing process. The Technology Readiness Level (TRL) for it is 8.

Research Methods

The Quasy Experiment was used in the first year of research, and the results showed that the experimental group experienced a decrease in blood sugar levels and cholesterol levels after consuming Kanium Seasoning Tea for three days, with a p value for blood sugar levels of 0.001 and cholesterol levels of 0.012 (0.05). The research method of the second year was the Descriptive Analytic and Organoleptic Test, which is a way of knowing the response of panellists to Kanium Seasoning Tea products with four parameters, namely color, scent, taste, and texture, through the Hedonic Test, which is a test that was carried out on 28 panellists to determine the level of consumer acceptance of the product, with an assessment score of (5 = very like, 4 = like, 3 = somewhat like, 2 = dislike, 1 = very dislike) through socialisation and Focus Group Discussion (FGD) activities which were followed by a question and answer session and serving Kanium Seasoning Tea to participants of FGD to be tasted and given insight related to the taste, color, scent, texture, and packaging of Kanium Seasoning Tea to participants of FGD to be tasted and given insight related to the taste, color, scent, texture, and packaging of Kanium Season.

In this study, researchers have made tea sachets (Kanium Seasoning Tea) that are ready to be brewed, which aim to help people with diabetes to reduce their blood sugar and cholesterol levels. If people with diabetes have an increase in cholesterol, it will interfere with their insulin work, which has the function of lowering blood sugar levels in the blood. The ingredients in a sachet of Kanium Seasoning Tea are cinnamon, coriander, and palm sugar. These three ingredients of Kanium Seasoning Tea have an effect on lowering blood sugar and cholesterol. In the second year of this research, the packaging of Kanium Seasoning Tea was made, socialisation in Harapan Raya Health Center, Langsat Health Center, Rejosari Health Center, Rumbai Bukit Health Center, Pekanbaru Health Center, Awal Bros Hospital, BAPPEDA Government Employees Pekanbaru, Arifin Achmad Hospital, Ibnu Sina Hospital, and to the public and to do marketing. The socialisation activities and focus group discussion (FGD) were attended by 28 panellists and respondents.

The type of data was quantitative, which will explain the respondent's assessment of the product that has been made, which Kanium Seasoning Tea in box is packaging. The data collection technique used a questionnaire containing the respondents' assessment after consuming Kanium Seasoning Tea. The characteristics of each research variable were presented descriptively in the frequency

distribution table and the percentage of respondents' assessments of Kanium Seasoning Tea products in packaging.

Results and Discussion

The process of FGD activities is to provide the informant/respondent with a questionnaire as a form of respondent's assessment of the Kanium Seasoning Tea that has been consumed. Before filling out the questionnaire, FGD respondents were given a sachet of Kanium Seasoning Tea to brew, and then Kanium Seasoning Tea was assessed in the form of taste, scent, color, texture, and box packaging, where each panellist gave suggestions and insight for the perfection of Kanium Seasoning Tea products. The univariate analysis in this study explained the characteristics of the FGD respondent and the results of the respondent's assessment of Kanium Seasoning Tea through the FGD questionnaire.

Table 1: Characteristics of respondent

Variable	N	%
Age		
35-45	10	35.7
46-55	16	57.1
56-65	2	7.1
Occupation		
Housewife	6	21.4
Nurse	4	14.3
Civil Servant	16	57.1
Lecturer	2	7.1
Gender		
Female	22	78.6
Male	6	21.4
Education		
Senior High School	6	21.4
Undergraduate (S1)	15	53.6
Master Degree (S2)	7	25.0

The result of this study was that of the 28 respondents or guests that were invited who attended the socialisation and Focus Group Discussion (FGD) activities, 22 people (78.6%) were female. Most of the respondents who attended were aged between 46 and 55 years, as many as 16 people (57.1%). Based on their occupations, the majority of respondents work as civil servants, with a total of 16 people (57.1%), and the last education of the 28 respondents is an undergraduate education, with a total of 15 people (53.6%).

Table 2: Assessment Results of Organoleptic Tests on Kanium Seasoning Tea

Variable	5 Very Like	4 Like	3 Somewhat Like	2 Dislike	1 Very Dislike
Taste of Kanium Seasoning Tea	28 (100%)				
Color of Kanium Seasoning Tea	27 (96.4%)	1 (3.6)			
Scent of Kanium Seasoning Tea	24 (85.7%)	4 (14.3%)			
Texture of Kanium Seasoning Tea	24 (85.7%)		4 (14.3%)		

The results of the respondent' assessment of the Kanium Seasoning Tea which related to taste were 28 respondent (100%) said Very Like. Related to the color of Kanium Seasoning Tea, the majority of respondent said Very Like with a total of 27 people (96.4%), related to the scent and texture of Kanium Seasoning Tea were 24 people (85.7%) Very Like. So, from 4 variables: taste, color, scent and texture of Kanium Seasoning Tea, it was more than 90% answered Very Like.

Table 3: Assessment Results of Organoleptic Tests on Kanium Seasoning Tea Packaging

Variabel	5 Very Like	4 Like	3 Somewhat Like	2 Dislike	1 Very Dislike
Kanium Seasoning Tea Packaging	22 (78.6%)		6 (21.4%)		
Box design	20 (71.4%)	1 (3.6%)	7 (25.0%)		
Box color	24 (85.7%)		4 (14.3%)		
Box size	27 (96.4%)		1 (3.6%)		
Serving Dose	26 (92.9%)		2 (7.1)		
Number of Sachets	19 (67.9%)		9 (32.1%)		
Palm Sugar serving design	18 (64.3%)		7 (25.0%)	3 (10.7%)	
The serving size of Palm Sugar	24 (85.7%)		3 (10.7%)	1 (3.6%)	
How to Consume Kanium Seasoning Tea	27 (96.4%)		1 (3.6)		

Regarding the packaging, as many as 22 respondents (78.6%) said they very much liked it. Then, regarding the box design, 20 people (71.4%) said very like. The assessment of the colour of the box revealed that the majority said "very like," with a total of 24 people (85.7%). Regarding the box size, as many as 27 people (96.4%) said they very much liked it. 26 people (92.9%) said Very Like; 19 people (67.9%) said Very Like for the number of sachets; 18 people (64.3%) said Very Like for palm sugar serving design; 24 people (85.7%) said Very Like about the serving size of palm sugar; and as many as 27 people (96.4%) said Very Liked related to how to consume Kanium Seasoning Tea.

The suggestions gotten from the questionnaire of the respondent related to Kanium Seasoning Tea are based on the following: the taste is good, but the size of the picture of songket in the box can be made smaller; palm sugar packaging is recommended from paper and the dosage is divided into 3 parts; the tea box is made like tea in general, including how to use it based on time; the contents of tea in 1 box range from 25–30 sachets; including the expired date, BPOM, and copyright; the colour of the box packaging is brighter.

In this study, the output of the research product was an herbal tea named Kanium Seasoning Tea (Cinnamon Coriander Tea), in the form of brewed tea, wrapped in tea bags (sachets) filled with coriander, cinnamon, and palm sugar. Kanium Seasoning Tea can be consumed 1-2 times a day, brewed with hot water and left for 3 minutes to dissolve.

The design of the Kanium Seasoning Tea box is in the form of a Riau Malay songket motif to preserve the results of Malay culture and to introduce Malay songket to people outside Riau. The Kanium Seasoning Tea box also includes the composition of tea, how to serve it, and suggestions for serving. Kanium Seasoning Tea stickers are used to introduce Kanium Seasoning Tea to the public because one of the expected outcomes of this research is that the product can be marketed in the community. On the design of the Kanium Seasoning Tea sticker, the slogan for Kanium Seasoning Tea is also written, namely, Healthy, Nature, and Less Sugar.

Healthy means that this tea product provides health benefits that can help lower blood sugar and cholesterol, especially for people with diabetes mellitus and hypercholesterolemia. The word "natural" means that Kanium Seasoning Tea products are derived from natural ingredients such as coriander, cinnamon, and palm sugar. According to several studies, coriander and cinnamon have antidiabetic properties, so they are very effective for people who have diabetes mellitus. The word "Less Sugar" explains that Kanium Seasoning Tea products use palm sugar to add sweetness to tea and prevent an increase in blood sugar levels if consumed by people who have diabetes mellitus.

The economic and social impacts in this study are the effects that can be felt by partners from the Kanium Seasoning Tea socialisation and FGD that have been carried out. People do not know that coriander and cinnamon can help lower blood sugar and cholesterol levels. After the activity, the partners found out that coriander and cinnamon can help lower blood sugar and cholesterol levels. Coriander contains linoleic acid, oleic acid, palmitic acid, stearic acid, and ascorbic acid, which can

increase high density lipoprotein (good cholesterol). Cinnamon contains cinnamaldehyde and Methylhydroxy Chalcone Polymer (MHCP), which is a polyphenol (flavonoid) that works like insulin so that it can lower blood sugar levels. While palm sugar can be used as a substitute for granulated sugar because it does not contain glucose, it does contain sucrose, so that it can help lower blood sugar levels. Partners will carry out socialisation to cadres about the benefits of Kanium Seasoning Tea.

Conclusion

This research activity in the second year was carried out in the form of a Focus Group Discussion (FGD). FGD is a data collection method that relies on the interaction of informants or respondents based on the results of discussions from a focus group that focuses on discussing certain problems. The process of FGD activities in this study is by giving the panelists/respondents a questionnaire as a form of respondent's assessment of the Kanium Seasoning Tea that has been consumed. Before filling out the questionnaire, FGD respondents were given a sachet of Kanium Seasoning Tea to brew. Then Kanium Seasoning Tea was assessed in the form of taste, color, scent, and texture, as well as box packaging and sachet packaging, and each panelist/respondent provided suggestions and input for the perfection of Kanium Seasoning Tea products. The results obtained from this study as the output product are the manufacture of Kanium Seasoning Tea products, the manufacture of Kanium Seasoning Tea boxes and their stickers for the marketing process.

The results of this study are expected to be used as a source of information for the community as a complementary or alternative therapy, especially for those suffering from DM and hypercholesterolemia to help lower their blood sugar and cholesterol. Nursing students will be implementing nursing care in type 2 DM patients where Kanium Seasoning Tea can be used as a complementary therapy to pharmacological therapy.

This research is expected to be one of the means to improve the quality of life by controlling blood sugar and cholesterol levels and can be used as an alternative treatment programme that is given to accompany oral antidiabetic drugs to control blood sugar levels and cholesterol levels so that it is expected to reduce DM complications. For further researchers, the results of this study are expected to be used as data, basic information, and evidence to carry out further research.

Conflict of Interest

The authors declare that there is no conflict of interest.

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