

MANAGEMENT ORGANIZATION DESSERT FROM GREEN BEAN MILK CARROT FLAVOR FOR THE ELDERLY

U Yuyun Triastuti¹⁾, Tri Rettagung Diana²⁾, Julia Vebrianti³⁾
^{1,2,3} Culinary Arts Study Program, Akademi Kesejahteraan Sosial Ibu Kartini
Semarang
Email : yuyuntriastuti94@gmail.com

Vol.16 No.1 | March, 2022

Submit :
15/08/2021

Accept :
25/03/2022

Publish :
31/03/2021



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Abstract

Physical and psychological changes in the elderly affect the management of food administration, especially for dessert. Dessert made from green bean milk with carrot flavor into hot pudding and cold pudding. The purpose of this study was to determine the physical characteristics and acceptance of the elderly, as well as the nutritional content of dessert. This research method uses are methods of observation, counseling, experimentation, description test, hedonic test, chemical test, and documentation. Experiment in making hot pudding using whole eggs and egg whites and cold pudding using gelatin flour and konyaku flour, as well as a combination of using low-calorie sugar, nutritional content test. The results of the research on the best characteristics of hot pudding taste sweet and savory, soft texture, distinctive aroma of green beans and carrots, and attractive brownish orange color. The cold pudding tastes sweet, has a characteristic aroma of medium carrot green beans, foamy texture, and a bright orange-white color. The results of the hedonic test showed that hot pudding with the use of whole eggs and 100 g of low-calorie sugar was the most preferred, while cold pudding with the use of konyaku and 100 g of low-calorie sugar was the most preferred. The chemical test results of the selected hot pudding contained 2.3% cholesterol, 26% vitamin A, and 10% protein, while the selected cold pudding contained 2% cholesterol, 27% vitamin A, and 12% protein.

Keywords: management; dessert; carrot; green bean milk; elderly



INTRODUCTION

The elderly are a group susceptible to chronic diseases such as hypertension and diabetes mellitus [1]. Even the elderly tend to have at least two chronic health problems, marked by physical and psychological changes, which can affect food consumption patterns. These changes may also be influenced by various diseases such as liver, kidney, heart, diabetes mellitus, stroke, hypertension, rheumatism, cataracts, and night blindness.

In order to stay healthy and enthusiastic, it is necessary to apply a balanced nutritional diet, and adjust to health conditions, nutritional adequacy,

changes in appetite, and food textures that affect the ability to digest food [2]. To serve food, especially desserts, it is necessary to have food management. Start planning menus, selecting and arranging ingredients, budgeting needs, determining calorie needs, carrying out management, serving and controlling food, and developing the benefits of these foods for the elderly [3].

Management of food administration for the elderly, according to the general diet, includes appetizers, main dishes, desserts, or snacks in the form of drinks or snacks. Diet is information about the type and amount of food consumed by a person or group of people at a certain time, so that the assessment of food consumption can be based on the amount and type of food consumed [4]. Food management is an integrated system activity, interrelated with each other. Institutional and industrial food administration is an integrated program consisting of planning, procurement,

storage, processing of food ingredients and serving or serving food on a large scale [5].

Diet is information about the type and amount of food consumed by a person or group of people at a certain time, so that the assessment of food consumption can be based on the amount and type of food consumed [5]. In this research and counseling, the focus is on desserts.

The planned dessert menu is made from carrot-flavored green bean milk which has sufficient nutritional content, including vitamin A, where vitamin A (Beta carotene) is needed by the elderly, as a prevention of cancer and night blindness. Another advantage of green bean milk is that it contains lots of vitamins B1, B2, and niacin, besides that it is low in fat. Due to the processing of green beans into milk, vitamin A in green bean milk is reduced. To increase the intake of vitamin A in green bean milk, other ingredients that contain lots of vitamin A can be added, one of which is carrots [7]. Carrot flavored green bean milk is developed into hot pudding and cold pudding.

Dessert planning for the elderly is planned according to the needs of the body, material needs, cost requirements and processing processes. Fried foods and coconut milk should not be served to the elderly because they contain saturated fat which can increase cholesterol and triglyceride levels which are components of fat in the blood that are harmful to health [2]. Increased cholesterol levels can increase the risk of coronary heart disease (CHD) so that it is dangerous for health, especially for the elderly [6].

Selection of green beans and carrots, because these ingredients are easy to obtain, the price is relatively affordable,





safe for consumption in all conditions, and has a fairly high nutritional value. The results of the research on making carrot-flavored mung bean milk showed low cholesterol content, high enough vitamin A, so it was safe for the elderly to consume. The characteristics of real food are that it contains essential nutrients for the body's metabolism, does not contain harmful components, is produced locally, is produced sustainably, is affordable by the wider community and is easily obtained [7].

This research and counseling focuses on processing desserts or desserts, by implementing food hygiene and sanitation. Food Sanitation Hygiene (HSM) is a health and hygiene effort to control the factors of food, people, places and equipment that can cause disease/health problems or poisoning. The purpose of HSM is to ensure food safety and hygiene, prevent the spread of disease outbreaks, prevent the circulation of food products that are detrimental to the community, reduce the level of spoilage or spoilage in food[8].

The research objectives are: To determine the description test, hedonic test, and chemical test of hot pudding and carrot flavored green bean milk pudding. This research activity is useful for: increasing the experience, knowledge, and skills of the elderly Harapan Asri guesthouse cooks, to implement the preparation and processing of dessert menus, by applying hygiene and sanitation.

RESEARCH METHODS

The method used in achieving the goal, namely community empowerment by transferring knowledge and technology, through sanitation and hygiene counseling,

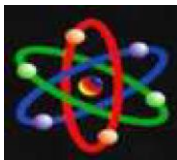
processing techniques, and experimental practice of making hot pudding and cold pudding from carrot flavored green bean milk, documentation, and questionnaire.

The data collected in the form of primary data from observations include resources in the provision of food (manpower, funds, facilities and equipment); The process of making dessert, observing the experimental results of hot pudding and cold pudding from carrot flavored green bean milk which includes aspects of taste, color, texture, aroma; Organoleptic testing through hedonic testing by 66 untrained panelists, namely the client of Wisma Lansia Harapan Asri. The hedonic scale used is very much dislike (score 1), dislike (score 4), somewhat like (score 3), like (score 4), and very like (score 5) with color, taste, and aroma assessment parameters; As well as testing the nutritional content in the form of cholesterol, vitamin A and protein, which was carried out at the Central Java Province Health Laboratory and Medical Devices Center, Jl. Sukarno Hatta No. 185 Semarang.

The secondary data collected included the general condition of the research site and a list of food menus provided by Wisma Lansia Harapan Asri Semarang. Hot pudding and cold pudding with carrot-flavoured green bean milk, experimental product processing and product hedonic testing were carried out at Wisma Lansia Harapan Asri, Jl. Tusam Raya No. 2A Semarang.

Hot pudding and cold pudding as experimental products were carried out by four cooks. During the process, the cooks were also given counseling on the application of hygiene and sanitation, preparation of varied and nutritious dessert menus, and attractive presentations. The





hot and cold pudding results from the experiment were immediately tested for hedonic by 66 elderly clients of Wisma Lansia Harapan Asri.

Extension equipment consists of LCD along with materials and stationery. While the practicum equipment includes digital scales, dough bowls, solets, blenders, cutting boards, knives, pans, stoves, strainers, measuring cups, brushes and spoons. The ingredients used are green

beans, carrots, low-calorie sugar, agar-agar flour, konyaku flour, eggs, and salt.

RESULTS AND DISCUSSION

Pudding Processing

Hot pudding made four different formulas. Hot pudding ingredients, green bean milk carrot flavor (table 1), and the product processing process are:

Table 1. Hot Pudding Ingredients Green Bean Milk Carrot Flavor

Hot Pudding Ingredients	Standard Recipe	Product formula			
		PP1	PP2	PP3	PP4
Green Bean Milk Carrot Flavor	-	500ml	500ml	500ml	500ml
Fresh UHT Milk	500ml	-	-	-	-
Salt	2g	2g	2g	50g	50g
Sugar	100g				
Low calorie sugar		20g	25g	20g	25g
Egg	200g	10g	10g		
Egg whites				10g	10g
Caramel ingredients:					
Sugar	80g	80g	80g	80g	80g
Lemon Juice	1sdm	1sdm	1sdm	1sdm	1sdm
Hot Water	1sdm	1sdm	1sdm	1sdm	1sdm

Heat resistant dish: 50 g margarin

Source: Author's Experiment, 2021

The process of making hot carrot-flavored green bean milk pudding, the first step is to make caramel, which is to heat the sugar in a pan until it melts over low heat, then add hot water, cook until it boils, remove the pan, add orange juice and stir evenly, set aside.

The second stage is making pudding: mixing green bean milk, salt, low-calorie sugar and whole eggs for PP1 and PP2 product formulas, egg whites for PP3 and PP4 product formulas, each formula is mixed well.

The third step is to print the pudding on the aluminum foil cup that has been smeared with margarine: add 2

tablespoons of caramel and pour the pudding mixture.

The fourth stage: baking pudding with au bain marie technique, for 45 minutes at 190°C, after being cooked, the pudding is removed, brought for 30 minutes, removed from the concrete, served.

Cold pudding made four different formulas. The ingredients for cold pudding with carrot flavored green bean milk (table 2), and the product processing process are:



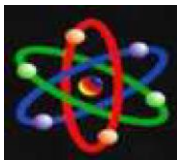


Table 2. Cold Pudding Ingredients Green Bean Milk Carrot Flavor

Cold Pudding Ingredients	Standard Recipe	Product formula			
		PS1	PS2	PS3	PS4
Green Bean Milk Carrot Flavor	-	400ml	400ml	400 ml	400ml
Fresh UHT Milk	400ml	-	-	-	-
Sugar	100g	75g	100 g	75 g	100 g
Low calorie sugar		18.75 g	25 g	18.75 g	25 g
Agar Flour	7g	7g	7g		
Konyaku flour				7g	7g
Egg whites	100g	100g	100g	100g	100g
Salt	2g	2g	2g	2g	2g

Source: Author's Experiment, 2021

The processing process for cold pudding with carrot-flavored green bean milk [9], which is the first stage: mixing carrot-flavored green bean milk, low-calorie sugar, and gelatin powder for PS1 and PS2, while PS3 and PS4 products are mixed with konyaku flour, until smooth. Then each of the ingredients for the PS1, PS2, PS3, and PS4 product mixes until it boils while stirring so that it doesn't clot. After boiling set aside.

The second stage is making egg white foam: mixer egg whites until half fluffy, add salt, mixer again until stiff, the sign is stiff. Fourth stage: add each of the first stage dough little by little into the egg white foam until it runs out and the dough

is evenly distributed. pudding dough mold and last minute in the refrigerator at 10°C for 30 minutes. Cold pudding with carrot flavored green bean milk is ready to be served.

Characteristics of Pudding

Hot pudding with carrot-flavored green bean milk and cold pudding with carrot-flavored green bean milk, the results of the experiment were carried out descriptive tests as a whole, from the aspects of color, aroma, texture and taste. The results of the descriptive test of sensory characteristics of color, aroma, texture and taste of hot pudding with carrot-flavored green bean milk are detailed in table 3.

Table 3. Sensory Characteristics of Hot Pudding Green Bean Milk Carrot Flavor

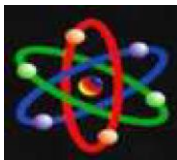
Product	Characteristics			
	Color	Aroma	Texture	Taste
PP1	White is a bit orange a bit dark	Special green beans and carrots	Softer and melt	Not sweet enough
PP2	White is a bit orange a bit dark	Special green beans and carrots	Softer and melt	Sufficient sweet and savory
PP3	White slightly orange	Special green beans and carrots	Soft, slightly dense	Kurang manis
PP4	White slightly orange	Special green beans and carrots	Soft, slightly dense	Sufficient sweet and savory

Source: Author's Experiment, 2021

Based on table 3, it can be concluded that the two products, namely PS1 and PS2, have the same color as thick orange

white, this is influenced by the main ingredients of green bean milk with carrot flavor and the use of whole eggs, the effect of orange color is influenced by carrot b-carotene which is used as a flavoring. as





well as coloring [10], in green bean milk. The use of eggs adds a thick color, caused by the influence of eggs, especially the yolk which plays a role in giving color [11]. The taste of hot pudding with carrot green bean milk, sweet and savory is enough for PS2 and PS4 products, while PS1 and PS3 have less sweetness. The use of different sugars causes different levels of sweetness, the difference is because the green bean carrot milk already has a sweet taste, so that in making hot pudding, the addition of sugar varies, with the aim of getting quite sweet results. In products with added sugar as much as 25 g, giving enough sweet and savory taste. In making this pudding, the sugar used is low in calories, because if you use granulated sugar it can cause the calorific value to increase. Cahyadi [12] stated that the total of calories of sugar is 3.94 kcal/g. According to Raini and Isnawati [13] high sugar consumption can lead to high sugar levels in the body, resulting in diabetes, can cause cavities, and cause obesity [14].

The savory taste is produced from the use of salt, which also serves to stabilize the sweet taste [15]. Substitution of granulated sugar with low-calorie sugar

with a ratio of 10 g of granulated sugar can be replaced by 2.5 g of low-calorie sugar [13]. Sensory aroma is an assessment using the sense of smell, the four products PP1, PSP, PP3, and PP4 have the same green bean and carrot aroma, which is influenced by the main liquid ingredient, namely carrot-flavored green bean milk. Green beans have a distinctive aroma, while carrots also have a distinctive aroma [10]. The texture of the hot pudding with mung bean milk with carrot flavor, on PS1 and PS2 products, is the same soft and melted. Dense pudding is influenced by the use of eggs, eggs contain many protein elements, and will solidify when heated, especially for egg whites, while egg yolks create a soft effect, due to the influence of lecithin contained in egg yolks [16]. While the PS3 and PS4 products have a soft but dense texture, this is influenced by the use of egg whites as the solidifying material.

The results of the descriptive test of sensory characteristics of color, aroma, texture and taste of cold pudding with mung bean milk with carrot flavor are detailed in table 4.

Table 4. Sensory Characteristics of Chilled Pudding Green Bean Milk Carrot Flavor

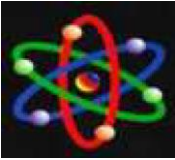
Product	Karakteristik			
	Color	Aroma	Texture	Taste
PS1	Orange white	Special green beans and carrots	foamy and solid	Not sweet enough
PS2	Orange white	Special green beans and carrots	foamy and solid	Sufficient sweet and savory
PS3	Orange white	Special green beans and carrots	foamy and solid	Not sweet enough
PS4	Orange white	Special green beans and carrots	foamy and solid	Sufficient sweet and savory

Source: Author's Experiment, 2021

Based on table 4, it can be explained that cold pudding, with product codes PS1, PS2, PS3, and PS4 has the same color, namely white and orange. The white color

is due to the use of mung bean milk, while the orange is due to the use of carrot juice to add flavor to the mung bean milk. The orange color is caused by the basic ingredients used, namely carrots, the effect of beta carotene contained in it [10].





The description of the taste on the product coded PS1 and PS3 has a less sweet taste, due to the different percentages of replacing granulated sugar into low-calorie sugar. The difference in the use of low-calorie sugar, with the consideration that in green bean milk the carrot flavor has a sweet taste, so to get the right formula, different uses of low-calorie sugar are given. Meanwhile, products with codes PS2 and PS4 produce a moderately sweet and savory taste, due to the use of 25 g of low-calorie sugar.

The aroma produced from hot pudding with carrot-flavored mung bean milk, has product codes PS1, PS2, PS3 and PP4, has a distinctive aroma of green beans combined with carrots [10], as in hot pudding. Cahyadi in Ayu [12] suggests that "Aroma is one of the parameters that determine the delicious taste of food".

The texture of hot pudding with green bean milk with carrot flavor with product code PS1 and PS3 is foamy but solid, while the PS2 and PS4 pudding is foamy and chewy. The foamy effect on the pudding is due to the use of foamed egg whites [9], while the solid effect is due to the use of seaweed gelatin powder compactor, the chewy effect is influenced by the use of konyaku flour in making the cold pudding.

Hedonic Test Results

The hedonic test on hot and cold pudding with carrot flavored green bean milk was carried out by untrained panelists, as many as 66 elderly clients of Wiima Lansia Harapan Asri. Panelists assessed the level of preference for the color, aroma, texture and taste of the hot pudding that had been prepared with product codes PP1, PP2, PP3, and PP4. And cold pudding with code PS1, PS2,

PS3, and PS4. The assessment was analyzed using the mean value and standard deviation. The results of the panelists' average preference for color, aroma, texture, and taste of hot and cold pudding with carrot-flavored green bean milk can be seen in Figure 1.

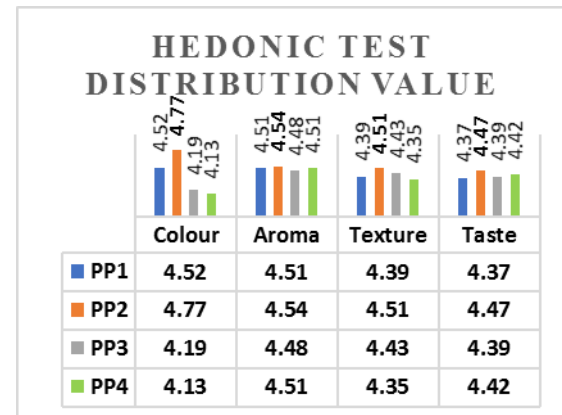


Figure1 Distribution of Panelists' Assessment of Hot Pudding Green Bean Milk Carrot Flavor

Source: Author's Primary Data (2021)

Based on Figure 1, it can be concluded that the hot pudding of green bean milk with carrot flavor with code PP2, with the use of whole eggs and 25 g of low-calorie sugar is the most preferred by the panelists. The selected product has a sweet and savory taste that is quite sweet, a distinctive aroma of green beans and carrots, has a soft and melted texture, and a thick orange-white color. These characteristics are the type of product that is most preferred by the elderly, because of the decrease in digestibility in the elderly.

The results of the distribution of preferences by panelists on the color, aroma, texture, and taste of cold pudding with carrot-flavored green bean milk can be seen in Figure 2.



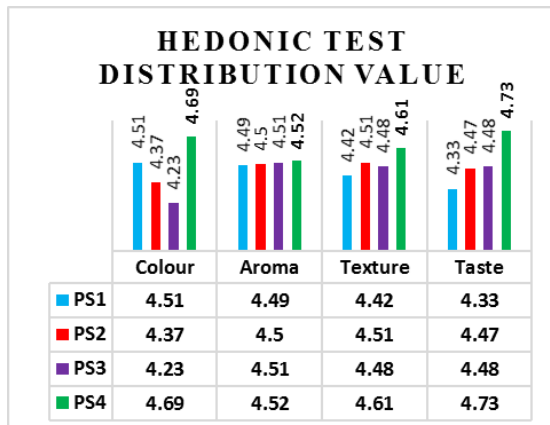
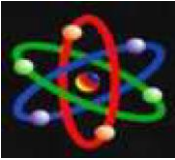


Figure 2 Distribution of Panelists' Assessment of Cold Pudding Green Bean Milk Carrot Flavor

Source: Author's Primary Data (2021)

Based on Figure 2, it can be concluded that the carrot flavored green bean milk cold pudding with code PS4, with the use of konyaku and 25 g of low-calorie sugar was the most preferred by the panelists. The selected product has a moderately sweet and savory taste, a distinctive aroma of green beans and carrots, has a foamy and chewy texture, and an attractive orange-white color. These characteristics are the type of product that is most preferred by the elderly, because of the decrease in digestibility in the elderly.

Chemical Test Results

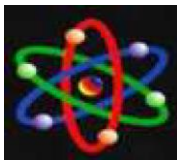
Carrot-flavored green bean milk pudding from the product that the panelists liked the most was then subjected to chemical testing, as a form of evaluating the usefulness of the dessert menu for the elderly. The results showed that the selected hot pudding PP2 contained 2.3% cholesterol, 26% vitamin A, and 10% protein, while the cold pudding selected PS4 contained 2% cholesterol, 27% vitamin A, and 12% protein. The chemical

test showed that the two puddings selected were safe for consumption by the elderly. Because healthy elderly have a good diet by: increasing fiber, choosing nutrient-dense foods, drinking lots of fluids, reducing fat, cholesterol, salt, limiting alcohol, avoiding nicotine, staying physically active, controlling stress, exercising the brain, staying social, look for spiritual values, check health regularly [17].

Vitamin A can be associated with hypertension because β -carotene which is a precursor of vitamin A can act as an antioxidant. β -carotene can cooperate with vitamin E in preventing lipid oxidation from peroxide and hydroxyl radicals in membranes. One molecule of β -carotene can remove 1000 free oxygen before reacting, in addition, β -carotene also functions in activating the second antioxidant and enzymatic defense, namely glutathione S-transferase [18].

Even though the elderly are no longer growing, adequate protein intake is needed by the body to repair worn and damaged tissues and body cells to keep the body healthy [19]. A balanced food source is needed by the body to maintain a balanced metabolism in producing energy, the source of energy needed is a source of energy that comes from fat, carbohydrates, protein, water, minerals, the body requires a number of calories according to a person's weight. Excessive consumption of one source of fat will result in excess cholesterol because all excessive energy sources will be stored in the form of cholesterol [20].





CONCLUSION

The best characteristics of hot pudding are sweet and savory taste, soft texture, distinctive aroma of green beans and carrots, and attractive bright orange color. Cold pudding tastes sweet, has a characteristic medium green bean aroma, frothy texture, and a bright orange-white color. The hedonic test results show that hot pudding code PP2 with the use of whole eggs and 100 g of low-calorie sugar is the most preferred, while cold pudding code PS4 uses konyaku and 100 g of low-calorie sugar is preferred.

The chemical test results of the selected PP2 hot pudding contained 2.3% cholesterol, 26% vitamin A, and 10% protein, while the selected PP4 cold pudding contained 2% cholesterol, 27% vitamin A, and 12% protein. Research and outreach activities went smoothly, with evidence of an enthusiastic response from the managers and clients of Wisma Lansia Harapan Asri. Further research can add sauce to serve cold pudding.

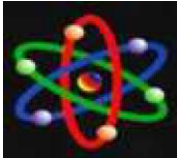
THANK-YOU NOTE

Thank you to the Social Welfare Academy Institution of Kartini Semarang, which has supported funding, as well as the managers and clients of Wisma Lansia Harapan Asri who have helped the smooth running of this research and community service activity.

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