

To Standardization, Formulation and Sensory Evaluation of Carrot Dessert with Rice Balls

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How to cite this paper: Dr. Anil Bukya | Lawande S. R | Dawkhar S. N "To Standardization, Formulation and Sensory Evaluation of Carrot Dessert with Rice Balls" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-3 | Issue-5, August 2019, pp.975-977, <https://doi.org/10.31142/ijtsrd26549>



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Rice flour (also rice powder) is a form of flour made from finely milled rice. It is distinct from rice starch, which is usually produced by steeping rice in lye. Rice flour is a particularly good substitute for wheat flour, which some people believe irritates their digestive system. Rice flour is also used as a thickening agent in recipes that are refrigerated or frozen since it inhibits liquid separation. Milk is good for the bones because it offers a rich source of calcium, a mineral essential for healthy bones and teeth. Cow's milk is fortified with vitamin D, which also benefits bone health. Calcium and vitamin D help prevent osteoporosis. The carrot (*Daucus carota*) is a root vegetable that is often claimed to be the perfect healthy food. It is crunchy, tasty and highly nutritious. Carrots are a particularly good source of beta-carotene, fiber, vitamin K, potassium and antioxidants (Joy et al. 2001).

The traditional orange colored carrots get their bright colour from beta-carotene, an antioxidant that is converted to vitamin A in the body. Rice is composed of carbs, with small amounts of protein and virtually no fat. Carrot desert is highly nutritious which is rich in beta-carotene, an antioxidant because of that we choose this product. Dessert /Payasam is traditional Indian food. We are collecting the information from the market survey or

ABSTRACT

Carrot dessert with rice balls were prepared from different proportion of carrot puree, rice flour, sugar, milk and water i.e. T1 formulation was 27:16:16:21:20; (carrot puree: milk: rice flour: sugar: water); for T2 formulation was 22:21:21:16:20; (carrot: puree: milk: rice flour: sugar: water); whereas T3 21:27:11:21:20 (carrot puree: milk: rice flour: sugar: water). For this carrot dessert rice balls physicochemical and sensory analysis was carried out. The results showed that sensory evaluation and overall acceptability of carrot dessert with rice balls of treatments T1, T2 and T3 were noted as 8.3, 7.9 and 7.4 respectively. It was observed that the carrot dessert with rice balls T1 was most acceptable and ranked between like very much. T1 showed moisture (61.57%), fat (2.5%), protein (4.2%), Carbohydrate (28%), total sugar (24.0) ash (3.8%), energy by formula calculated (151.3Kcal) respectively. Hence T1 have rich nutritive value and literature also showed for carrot with nutrient such as Beta carotene (precursor of vit. A), Minerals, Amino acid, Calories, Antioxidants etc. Hence this recipe of carrot dessert suitable for supplementation of Vit- A deficient, heart patient and cancer patients which are having good therapeutic value.

KEYWORDS: carrot puree, rice balls, sensory analysis, new product development

1. INTRODUCTION

Carrot is widely available in India all-round the year with an annual production of 4.14 lakh tonnes (Sharma et al. 2012). Carrot is used in the manufacturing of various milk products like flavored milk beverages, ice-cream, whey beverages, Sandesh, chamcham, rasmadhuri, rasogolla, etc.

consumer survey so we decided the product. the present study was carried out to evaluate the physicochemical and sensory properties of carrot dessert.

2. MATERIALS AND METHODS

Carrot, Rice Powder, Milk, Cashew Nuts, Almonds, Pistachios, Cardamom, Sugar and Salt all materials were purchased from the local market of Saralgaon. All analysis was carried out at the College of Food Technology, Saralgaon.

2.1. PREPARATION OF CARROT DESSERT

Take Fresh carrot & cut the carrot into slices. Boil it for 5 min in a half cup of water. After boiling take it a side. And prepare a carrot paste (puree) with the addition of a little amount of water in carrot. Take a half cup of water and add a little amount of salt and sugar in it for taste. Make the low flame and add a half cup of rice powder in it. Cook it for 2 min mix well. while kneading prepare small balls of it. Boil one cup of milk with one cup of water. Add crushed cardamom and sugar while boiling. When milk gets boiled will. Add the rice balls in it. When it turns thick then add carrot puree in it and add the little amount of water if required. Check the sugar and salt content add it if required. Once it turns slightly thick add a half a cup of milk and further cook it for 5 min. garnish with a ghee roasted nuts in it. cook it for 5-10 min. serve it

Take carrot washed & peel it & cut into slices cook the slices carrot with water

Grind it well once cooled with little water

Strain it & aside the puree

Boil water, add sugar & salt & then add required quantity of rice powder cook for 2 min

Knead the dough, when it is hot & make very tiny rice balls

Add the water and milk in 1:1 ratio into cooking pan

Add crushed cardamom & sugar

When milk get boiled, add the rice balls once it turn thick add the carrot puree

Garnish with ghee roasted nuts

Adding preservative (sodium benzoate 0.1 % by weight)

Dessert is prepared pack in plastic container

Flowchart1: Preparation of Carrot Dessert

Table1: Recipe standardization of Preparation of carrot dessert (per 100 g)

INGREDIENTS	CONTROL	T ₁	T ₂	T ₃
Carrot puree (g)	-	24	26	30
Sugar (g)	20	20	25	20
Milk (ml)	30	20	20	20
Water (ml)	20	20	15	15
Rice balls (g)	20	10	10	10
Cardamom (g)	4	1	1	1
Dry fruits (g)	5	4	2	3
Salt (g)	1	1	1	1

2.2. Proximate Composition and Quality parameters of the prepared Carrot Dessert

Protein, fat, crude fiber, ash, carbohydrate (difference method), Moisture content was done AOAC method (2002).

2.3. Organoleptic Evaluation of Carrot Dessert

Prepared carrot dessert was evaluated for organoleptic characteristics like colour, flavor, taste and overall acceptability by a panel of semi-trained judges, comprised of graduate students and academic staff members of College of Food Technology, Saralgaon, Samples were scored based on a nine-point hedonic scale. Judges were asked to rate the product on 9 points Hedonic scale with corresponding descriptive terms ranging from 9 'like extremely' to 'dislike extremely'.

3. RESULTS AND DISCUSSION

3.1. Proximate composition

Proximate composition of T₁ treated sample showed that Fat (2.5 %), protein (4.2%), Ash (3.8%), moisture (61.57%), carbohydrates (28.0 %), Energy (151.3 kcal) in the range were observed.

Table2: Proximate composition of Carrot Dessert T₁

Parameter	Value per 100 gram
Moisture	61.57 ± 1.21
Ash	3.8 ± 0.53
Energy (Kcal)	151.3 ± 2.82
Carbohydrates	28.0 ± 3.25
Protein	4.2 ± 0.58
Total sugar	24.0 ± 2.42
Fat	2.5 ± 0.42

Mean ± SD values were presented

3.2. Sensory Organoleptic Evaluation

Table3: Sensory Evaluation of Carrot dessert

Parameter/sample	T ₀	T ₁	T ₂	T ₃
Color	8 ± 0.94	8.4 ± 0.69	7.9 ± 0.52	7.4 ± 0.51
Taste	8.1 ± 0.73	8.5 ± 0.52	7.5 ± 0.70	7.4 ± 0.69
Flavor	7.9 ± 0.87	8.4 ± 0.69	7.5 ± 0.52	7.3 ± 0.48
Consistency	7.7 ± 0.67	8.1 ± 0.56	7.2 ± 0.63	7.5 ± 0.70
Overall acceptability	8 ± 0.81	8.3 ± 0.82	7.4 ± 0.51	7.5 ± 0.52

Mean ± SD values were presented

CONTROL- control sample is a simple kheer

T₁- with the addition of carrot puree

T₂- the amount of carrot puree and sugar is increased

T₃- with the extra addition of carrot puree and sugar

This table shows that score for samples T₁ recorded highest. This score for parameters like colour (8.4 ± 0.69) taste (8.5 ± 0.52) flavor (8.4 ± 0.69) consistency (8.1 ± 0.56) and overall acceptability (8.3 ± 0.82) was found. The sample T₁ was organoleptically better than other dessert samples. The lowest score showed for T₃ sample in color, taste, and flavor.

CONCLUSION

The superior quality of carrot fortified with rice ball dessert can be prepared by the addition of 24 parts of carrot s and 20 g of sugar with 20 parts of milk showed the best sensory evaluation and quality. The development of vegetable carrot dessert incorporated with rice balls going to show good market demand in Indian in the future for the vegetarian population in any functions and festivals when exploitation is carried out.

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