

Nutritive Content of Standardized Bakery and Confectionery Products

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Abstract

Many five star hotels make fresh bakery and confectionery products in house for their customers. However the nutritional content of any products is not mentioned anywhere. Attempt has been made to calculate the nutritional content of the standardized recipes.

The research design is descriptive in nature. The data was collected using purposive sampling method. The standardized recipes were taken from five star hotels in Pune. The nutritive values of standardized recipes were analyzed from the raw ingredients. We get almost all the nutrients from the bakery and confectionery products and some products content high energy.

Keywords

Nutritional value, bakery products, standardized recipe, Hotel

1. Introduction

Bakery items are commonly consumed by all the ages of people probably because of its taste which everyone likes. Bakery products are prepared in houses, bakery shops, restaurants and in hotels. Numerous varieties of bakery and confectionery products are made and sold by bakery shops. The bakery goods prepared in star category hotels are varied from local bakeries. Five star hotels prepare the products which are globally popular and consumed by guests. There are two distinctive categories of products; first category is a bakery product which comprises yeast leaven breads e.g. bread rolls, bread loaves etc., puff pastry, Danish pastry, scones and quick breads. And second is confectionery products which comprises sweet items e.g. cakes, Gateaux, pastry, muffins, tarts, pies, petit fours etc.

Nutrients play very important in an overall growth of the human. Every foodstuff which we eat daily provides some quantity of various nutrients which are necessary to our body. It is mandatory for bakeries to print nutritional contents on packed products but when it is sold loose or on buffets in hotels it is not possible

to write the content of each item. However, all bakery has their own standardized recipes and it is possible to calculate nutritional content of each item.

Literature review

Adriana Păucean, Simona Man (2013), stated that wheat bread is considered to be nutritionally poor and the supplementation of wheat flour with other flours is a powerful tool to improve the nutritional quality. Maize flour contains high levels of many important vitamins and minerals. On the other hand, defatted maize germ, a by-product of the corn oil industry, is rich in protein, dietary fiber and minerals. Addition of maize flour to wheat flour at levels of 30%, 40%, 50% and defatted maize germ flour to wheat: maize blends at levels of 5%,10%,15% was carried out to examine the effects on the baking and sensory characteristics of bread. The results of this study suggest that the incorporation of the maize flour at level up to 40% and defatted maize germ flour at level up to 15% produces bread without any negative effects in quality attributes and reasonable acceptance offering promising a nutritious and healthy alternative to consumers.

Peter L. Bordi Jr., Kimberly S. Snyder & S. William Hessert Jr (2010), ascertained that because of the adverse health effects associated with consuming trans-fats, foodservice companies continue to reduce/eliminate the amount of trans-fats used to prepare doughnuts and other foods. People eat doughnuts because they like the taste, however, meaning companies must reduce/eliminate trans-fats in a manner that has minimal impact on consumer preference. This study evaluated the sensory characteristics of doughnuts fried in three shortenings—one trans-fat and two trans-fat-free. Overall, the doughnuts prepared with trans-fat-free shortening compared favorably to those made using trans-fat shortening—a significant accomplishment with enormous implications for consumers and the industry.

Paslaru V., Niculita Ionela, Leahu Ana (2008), enumerated that cereals had been used in human nutrition since the oldest times because they have an nutritional potential very raised, organoleptic characteristics very good and easy hoarding possibility. Products obtained from cereals grapes are wellknown since 2700 i.H. when the Egyptians used to make bread using yeast. In our times, it has appear modern equipments for obtain bread from cereals flour and also, besides usual ingredients (yeast, lipids, sugar, milk, oxidants, water, salts, etc) now we are using specific enzymes (α -amilase, lipases, xilanase, lipoxigenase, gluco-oxidase, transglutaminase, proteolytic enzymes, etc) who leads to the increase of processing performens and of product's quality.

Objectives

- a) To assess nutritive value of bakery and confectionery products
- b) To determine total calorie content of standardized recipes

- c) To compare nutritive content of standardized products

Delimitations

- a) The survey of this study was carried out in five star hotels in Pune city.
 b) Nutritional value of five bakery products and five confectionery products were calculated
 c) Cane sugar was used for the preparation of bakery & confectionery products.

2. Research methodology

The research design is descriptive in nature. The data was collected using purposive sampling method. The standardized recipes were taken from five star hotels in Pune. Primary data was collected by observing preparation of selected bakery and confectionery products. Secondary data was collected from standardized recipe book in hotels, text books, journal and websites

3. Result and discussions

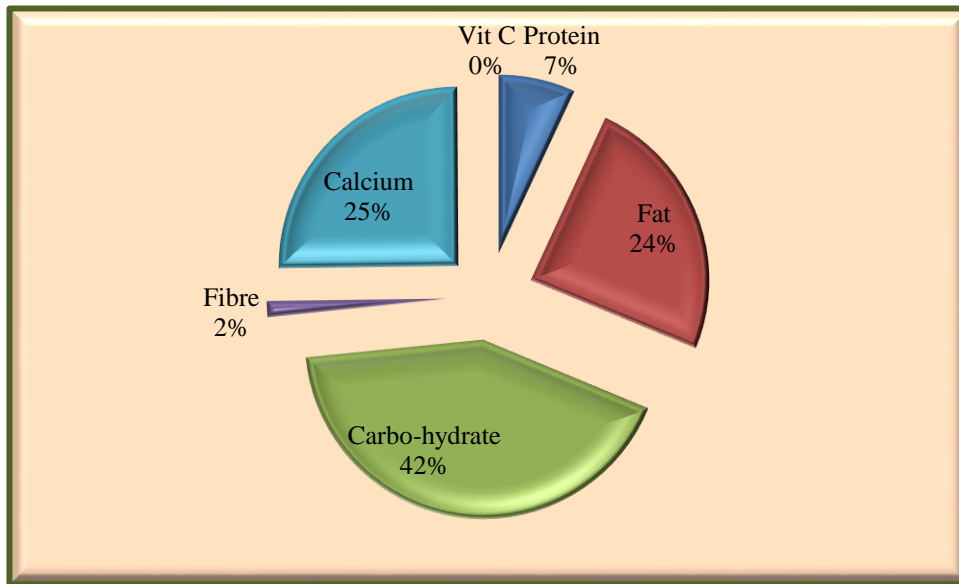
The nutritive values of standardized recipes were analyzed from the raw ingredients. The total quantity or the refine flour quantity was not same for all the recipes. According to the feasibility, standardized recipes were converted into smaller recipes for the experiment & nutritive values of same were assessed. The calorie and nutrient content of individual raw ingredient was referred from USDA's National Nutrient Database. The nutritive value of one gram of food was derived from the table & it was multiplied to quantity mentioned in the recipe. Analysis conducted was for energy, protein, fat, carbohydrate, fiber, calcium & vitamin 'c' of all standardized recipe.

Nutritive values of each bakery & confectionery product were analyzed as below:

<i>Croissants</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Refine Flour	250.00	902.50	29.95	4.15	181.33	6.00	37.50	0.00
Sugar	19.00	73.53	0.00	0.00	19.00	0.00	0.19	0.00
Yeast, compressed	7.00	7.35	0.59	0.13	1.27	0.57	1.33	0.01

Salt	5.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00
Cake Margarine	20.00	142.80	0.04	16.00	0.14	0.00	0.60	0.00
Pastry Margarine	120.00	856.80	2.28	96.24	0.00	0.00	79.20	0.48
Totals	421.00	1982.98	32.85	116.52	201.73	6.57	120.02	0.49

Table no.1: Nutritive value of standardized croissant



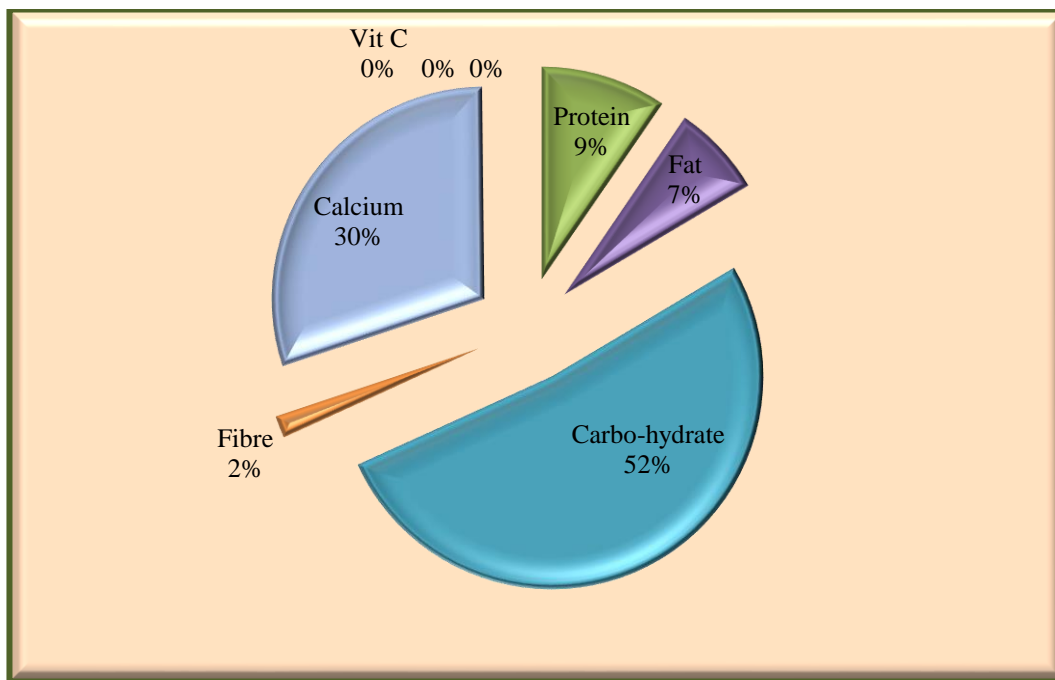
Graph no.1: Total nutrient content of croissants

It can be revealed from graph that, croissant contains high percentage of carbohydrate as compared to other nutrients & zero percentage of vitamins. Croissants were high in carbohydrates because recipe contains refine flour & sugar & there were no ingredients which contains vitamin

Bread roll								
Ingredient	Gram weight	Energy	Protein	Fat	Carbo-hydrate	Fiber	Calcium	Vitamin C
	(g)	kcal	(g)	(g)	(g)	(g)	(mg)	(mg)
Refine Flour	250.00	902.50	29.95	4.15	181.33	6.00	37.50	0.00
Sugar	22.00	85.14	0.00	0.00	22.00	0.00	0.22	0.00
Yeast, compressed	8.00	8.40	0.67	0.15	1.45	0.65	1.52	0.01
Salt	5.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00

Cake Margarine	21.00	149.94	0.04	16.80	0.15	0.00	0.63	0.00
Milk	30.00	29.10	1.13	2.07	1.55	0.00	50.70	0.69
Egg	50.00	71.50	6.28	4.76	0.36	0.00	28.00	0.00
Total	386.00	1246.58	38.06	27.92	206.83	6.65	119.77	0.70

Table no.2: Nutritive value of standardized bread roll



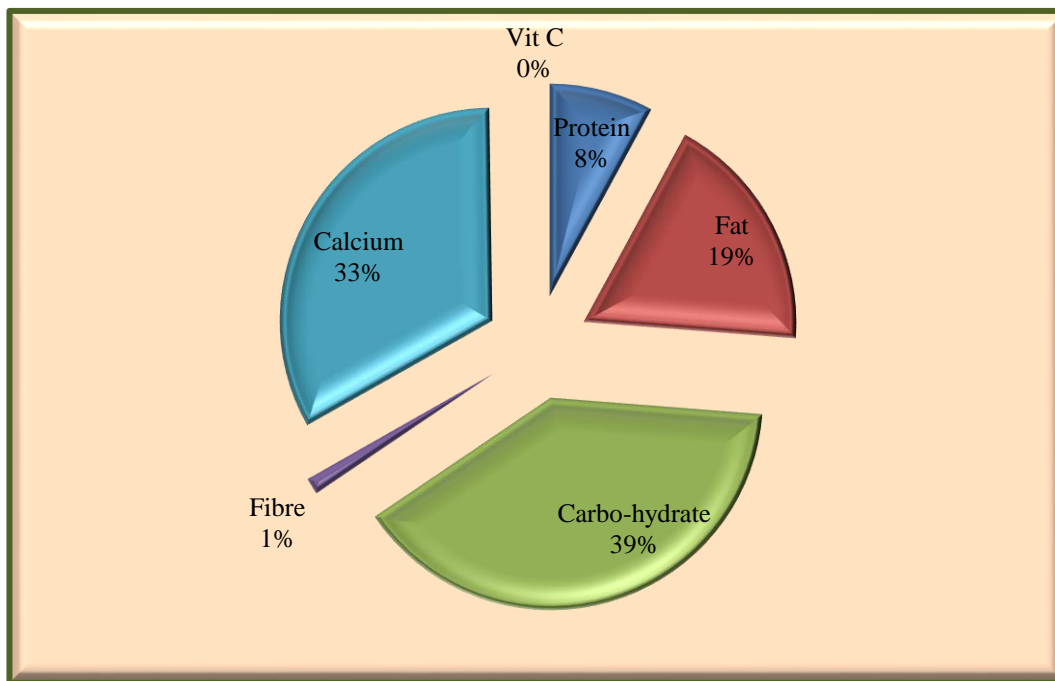
Graph no.2: Total nutrient content of bread roll

It can be revealed from graph that, bread roll contains high percentage of carbohydrate as compared to other nutrients & zero percentage of vitamins. Bread roll were high in carbohydrates because recipe contains refine flour & sugar & there were no ingredients which contains vitamin. The second highest percentage of nutrient was calcium because recipes contains pastry margarine & refine flour.

Brioche								
Ingredient	Gram weight	Energy	Protein	Fat	Carbo-hydrate	Fiber	Calcium	Vitamin C
	(g)	kcal	(g)	(g)	(g)	(g)	(mg)	(mg)
Refine Flour	250.00	902.50	29.95	4.15	181.33	6.00	37.50	0.00

Sugar	24.00	92.88	0.00	0.00	24.00	0.00	0.24	0.00
Yeast, compressed	8.00	8.40	0.67	0.15	1.45	0.65	1.52	0.01
Salt	4.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00
Cake Margarine	104.00	742.56	0.19	83.20	0.74	0.00	3.12	0.00
Milk	54.00	52.38	2.03	3.72	2.80	0.00	91.26	1.24
Egg	75.00	107.25	9.42	7.13	0.54	0.00	42.00	0.00
Total	519.00	1905.97	42.25	98.36	210.84	6.65	176.60	1.25

Table no.3: Nutritive value of standardized brioche

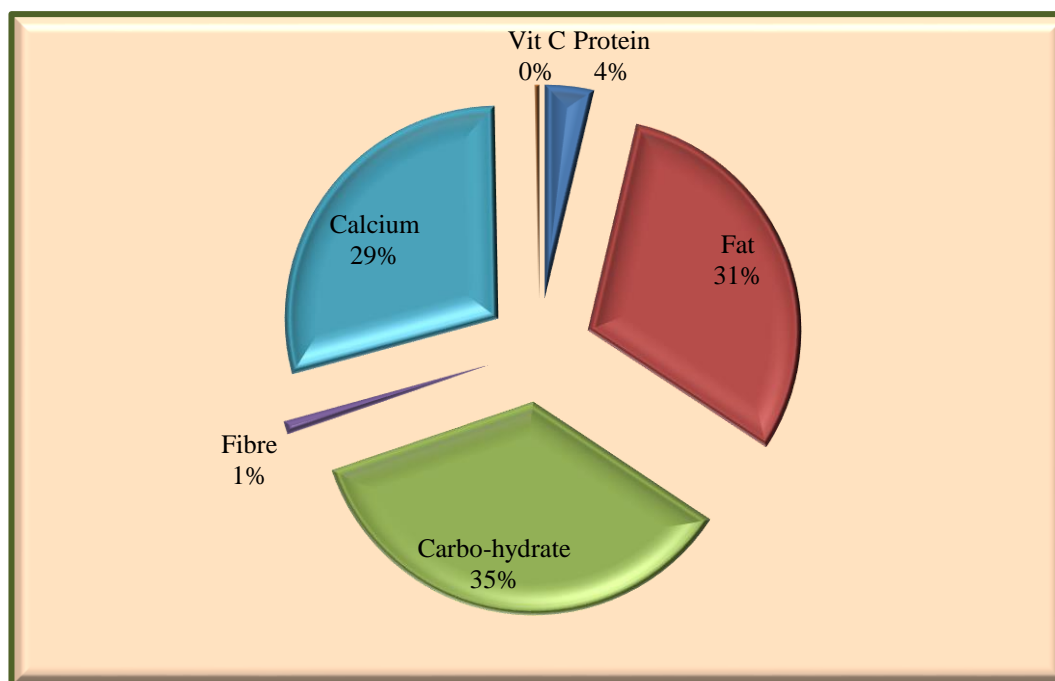


Graph no.3: Total nutrient content of brioche

It can be revealed from graph that, brioche contains high percentage of carbohydrate as compared to other nutrients & zero percentage of vitamins. Brioche was high in carbohydrates because recipe contains refine flour & sugar & there were no ingredients which contains vitamin. Second highest percentage of nutrient was calcium because recipe contains eggs & cake margarine

Doughnuts								
Ingredient	Gram weight	Energy	Protein	Fat	Carbo-hydrate	Fiber	Calcium	Vitamin C
	(g)	kcal	(g)	(g)	(g)	(g)	(mg)	(mg)
Refine Flour	250.00	902.50	29.95	4.15	181.33	6.00	37.50	0.00
Sugar, granulated	150.00	580.50	0.00	0.00	149.97	0.00	1.50	0.00
Yeast, compressed	10.00	10.50	0.84	0.19	1.81	0.81	1.90	0.01
Salt	4.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00
Cake Margarine	42.00	299.88	0.08	33.60	0.30	0.00	1.26	0.00
Milk	110.00	106.70	4.13	7.58	5.70	0.00	185.90	2.53
Oil	250.00	2210.00	0.00	250.00	0.00	0.00	0.00	0.00
Cinnamon	5.00	12.35	0.20	0.06	4.03	2.66	50.10	0.19
Total	821.00	4122.43	35.19	295.58	343.13	9.47	279.12	2.73

Table no.4: Nutritive value of standardized doughnut

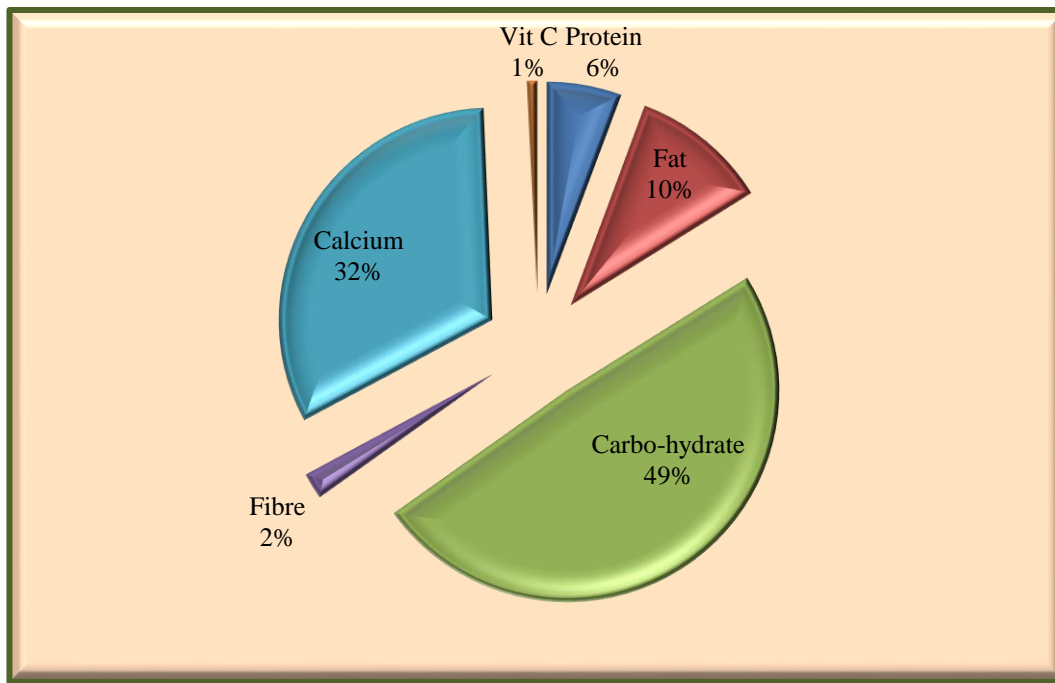


Graph no.4: Total nutrient content of doughnut

It can be revealed from graph that, doughnut found to be high in percentage of carbohydrate as compared to other nutrients because recipe contains refine flour & sugar. Second highest percentage of nutrient contain was fat because doughnuts were deep fried in oil. Brioche contains zero percentage of vitamin c because there were no ingredients which contains vitamin.

<i>Christmas stollen</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Refine Flour	250.00	902.50	29.95	4.15	181.33	6.00	37.50	0.00
Sugar	35.00	135.45	0.00	0.00	34.99	0.00	0.35	0.00
Yeast, compressed	16.00	16.80	1.34	0.30	2.90	1.30	3.04	0.02
Salt	3.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00
Cake Margarine	80.00	571.20	0.14	64.00	0.57	0.00	2.40	0.00
Milk	24.00	23.28	0.90	1.65	1.24	0.00	40.56	0.55
Eggs	50.00	71.50	6.28	4.76	0.36	0.00	28.00	0.00
Cinnamon	1.00	2.47	0.04	0.01	0.81	0.53	10.02	0.04
Lemon rind	1.00	0.47	0.02	0.00	0.16	0.11	1.34	1.29
Raisins	74.00	223.48	2.51	0.34	58.84	2.96	39.22	2.36
Sultana	59.00	176.41	1.81	0.27	46.72	2.18	29.50	1.35
Mixed fruit	60.00	193.20	0.20	0.04	49.64	0.96	10.80	0.00
Rum	17.00	39.27	0.00	0.00	0.00	0.00	0.00	0.00
Almond	32.00	188.80	6.85	16.81	5.97	3.17	75.52	0.00
Cardamom	1.00	3.11	0.02	0.07	0.68	0.28	3.83	0.21
Nutmeg	1.00	5.25	0.06	0.36	0.49	0.21	1.84	0.03
Icing sugar	50.00	194.50	0.00	0.00	49.89	0.00	0.50	0.00
Total	754.00	2747.69	50.12	92.77	434.59	17.69	285.14	5.84

Table no.5: Nutritive value of standardized Christmas stollen



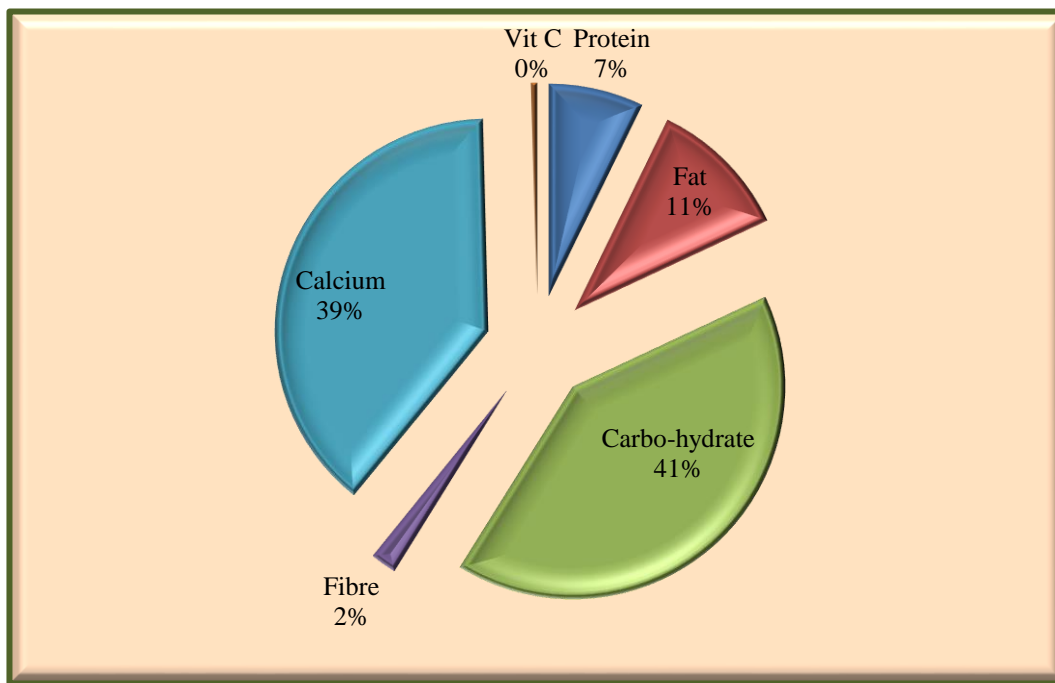
Graph no.5: Total nutrient content of Christmas stollen

It can be revealed from graph that, Christmas stollen found to be high in the percentage of carbohydrate as compared to other nutrients because recipe contains refine flour, raisins, sultanas, mix fruit peels & sugar .Second highest percentage of nutrient contain was calcium content because brioche were contains almonds, egg & milk. Brioche contains low percentage of ‘vitamin c’ because there were less quantity of lemon rind, raisin & sultana no ingredients which contains vitamin.

<i>Black forest gateau</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Refined flour	80.00	288.80	9.58	1.33	58.02	1.92	12.00	0.00
Baking powder	1.00	0.97	0.00	0.00	0.47	0.02	43.22	0.00
Cocoa powder	17.00	69.70	3.40	1.70	10.20	3.40	0.00	0.00
Sugar	100.00	387.00	0.00	0.00	99.98	0.00	1.00	0.00
Eggs	200.00	286.00	25.12	19.02	1.44	0.00	112.00	0.00
Vanilla essence	1.00	2.88	0.00	0.00	0.13	0.00	0.11	0.01
Cake gel	9.00	23.68	0.00	1.98	1.44	0.00	0.00	0.00

Rich cream	198.00	269.28	1.98	19.74	22.53	0.00	17.82	0.00
Cherry, tinned	114.00	52.44	0.88	0.15	13.41	1.71	12.54	2.50
Dark chocolate	75.00	409.50	3.66	23.46	45.88	5.25	42.00	0.02
Total	795.00	1790.25	44.62	67.38	253.50	12.30	240.69	2.53

Table no.6: Nutritive value of standardized black forest gateau



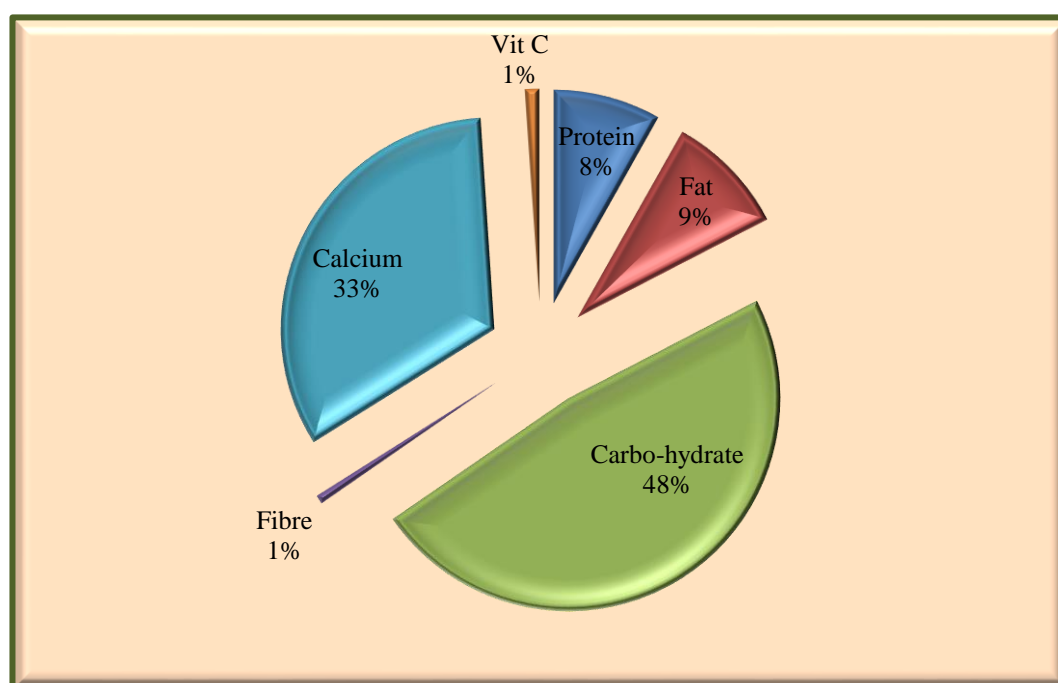
Graph no.6: Total nutrient content of black forest gateau

It can be revealed from graph that, black forest gateau found to be high in the percentage of carbohydrate as compared to other nutrients because recipe contains refine flour, dark chocolate & sugar. Second highest percentage of nutrient contain was calcium because recipe contains eggs, baking powder & chocolate Black forest gateau contains zero percentage of 'vitamin c' because there were no ingredients which contains vitamin.

Pineapple gateau								
Ingredient	Gram weight	Energy	Protein	Fat	Carbo-hydrate	Fiber	Calcium	Vitamin C
	(g)	kcal	(g)	(g)	(g)	(g)	(mg)	(mg)
Refined flour	100.00	361.00	11.98	1.66	72.53	2.40	15.00	0.00

Sugar	125.00	483.75	0.00	0.00	124.98	0.00	1.25	0.00
Eggs	200.00	286.00	25.12	19.02	1.44	0.00	112.00	0.00
Pineapple essence	2.00	5.76	0.00	0.00	0.25	0.00	0.22	0.02
Cake gel	7.00	18.34	0.00	1.54	1.12	0.00	0.00	0.00
Rich cream	228.00	310.08	2.28	22.73	25.95	0.00	20.52	0.00
Cherry, tinned	22.00	10.12	0.17	0.03	2.59	0.33	2.42	0.48
Pineapple, tinned	59.00	18.88	0.25	0.05	4.90	0.47	8.85	4.54
Total	743.00	1493.93	39.80	45.03	233.75	3.20	160.26	5.04

Table no.7: Nutritive value of standardized pineapple gateau

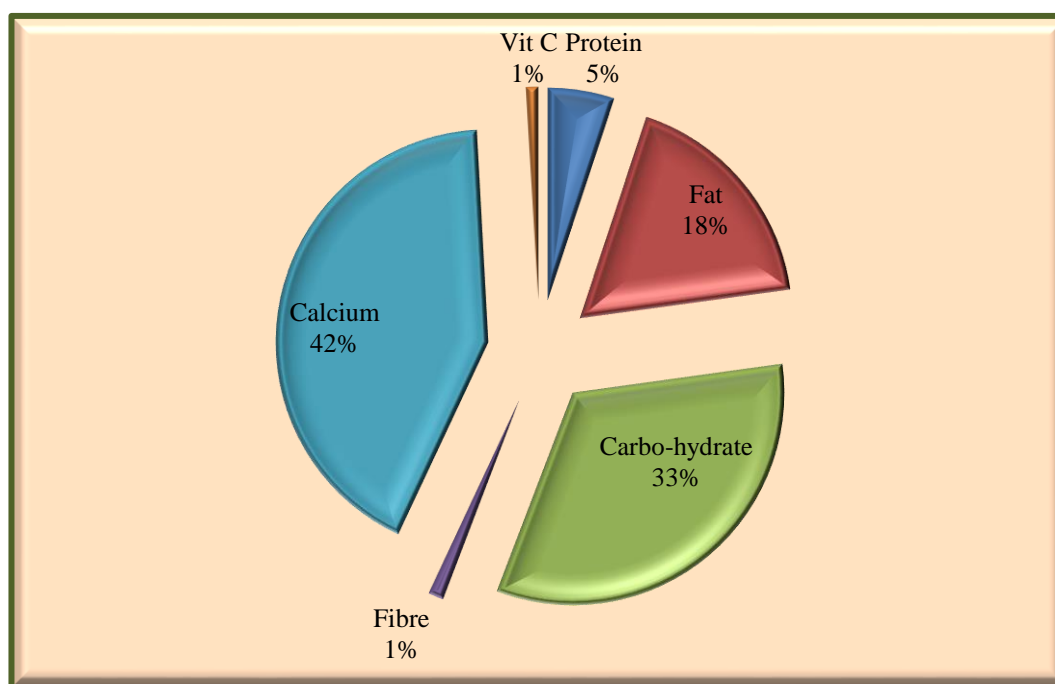


Graph no.7: Total nutrient content of pineapple gateau

It can be revealed from graph that, pineapple gateau found to be high in the percentage of carbohydrate as compared to other nutrients because recipe contains refine flour, synthetic cream & sugar .Second highest percentage of nutrient contain was calcium because recipe contains eggs, & synthetic cream. Pineapple gateau contains low percentage of ‘vitamin c’ because there were less quantity of cherries & pineapple.

<i>Linzer torte</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Golden margarine	158.00	1128.12	0.28	126.40	1.12	0.00	4.74	0.00
Sugar	141.00	545.67	0.00	0.00	140.97	0.00	1.41	0.00
Almond powder	75.00	442.50	16.05	39.39	14.00	7.43	177.00	0.00
Eggs	150.00	214.50	18.84	14.27	1.08	0.00	84.00	0.00
Refined flour	100.00	361.00	11.98	1.66	72.53	2.40	15.00	0.00
Cinnamon powder	2.00	4.94	0.08	0.02	1.61	1.06	20.04	0.08
Mix fruit jam	102.00	283.56	0.38	0.07	70.24	1.12	20.40	8.97
Vanilla sponge	71.00	210.87	5.18	3.05	40.97	0.00	29.82	0.00
Baking powder	2.00	1.94	0.00	0.01	0.94	0.04	86.64	0.00
Total	801.00	3193.10	52.80	184.87	343.46	12.05	439.05	9.05

Table no.8: Nutritive value of standardized Linzer torte

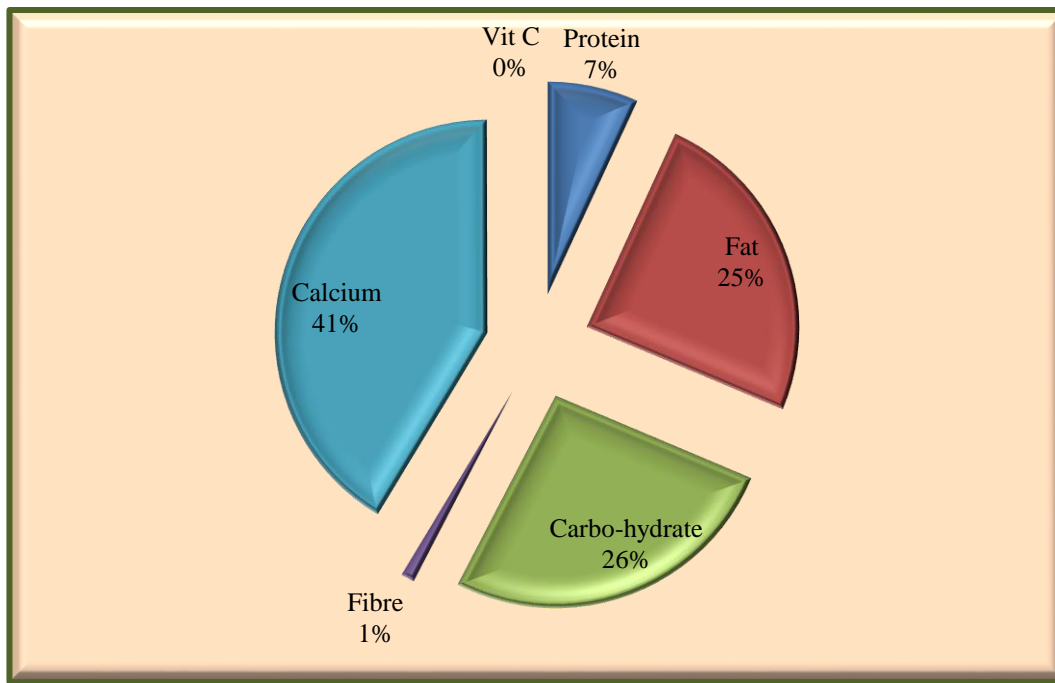


Graph no.8: Total nutrient content of Linzer torte

It can be revealed from graph that, Linzer torte found to be high in the percentage of calcium as compared to other nutrients because recipe contains high quantity of almond powder & baking powder. Second highest percentage of nutrient contain was carbohydrates because recipe contains sugar, refine flour & mix fruit jam. Linzer torte contains one percentage of 'vitamin c' because recipe contains mix fruit jam.

<i>Éclair</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Refined flour	120.00	433.20	14.38	1.99	87.04	2.88	18.00	0.00
Cake margarine	120.00	856.80	0.22	96.00	0.85	0.00	3.60	0.00
Eggs	175.00	250.25	21.98	16.64	1.26	0.00	98.00	0.00
Salt	2.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00
Sugar	3.00	11.61	0.00	0.00	3.00	0.00	0.03	0.00
Rich cream	100.00	136.00	1.00	9.97	11.38	0.00	9.00	0.00
Dark chocolate	50.00	273.00	2.44	15.64	30.59	3.50	28.00	0.01
White chocolate	50.00	269.50	2.94	16.05	29.62	0.10	99.50	0.25
Coffee powder	5.00	17.65	0.61	0.03	3.77	0.00	7.05	0.00
Total	625.00	2248.01	43.56	156.31	167.50	6.48	263.66	0.26

Table no.9: Nutritive value of standardized éclair

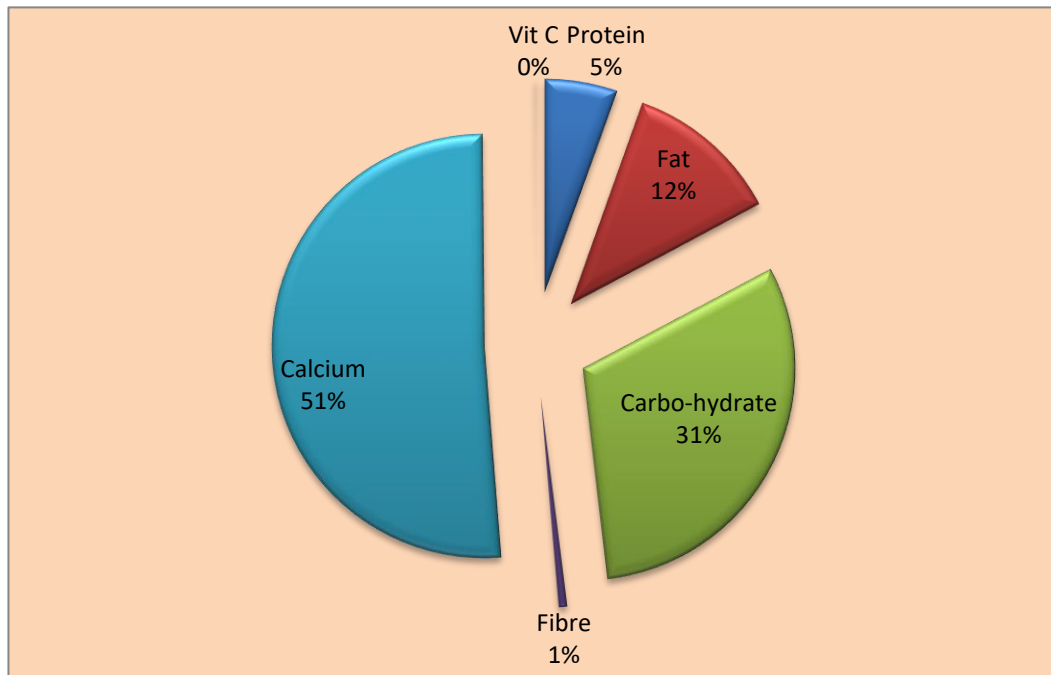


Graph no.9: Total nutrient content of éclair

It can be revealed from graph that, éclair found to be high in the percentage of calcium as compared to other nutrients because recipe contains eggs, dark chocolate & white chocolate. Second highest percentage of nutrient contain was carbohydrates because recipe contains refine flour, dark chocolate & white chocolate. Even fat contain was also in substantial percentage because recipe contains lot of quantity of cake margarine. Éclair contains zero percentage of 'vitamin c' because in recipe there were no ingredients which contains 'vitamin c'

<i>Muffins</i>								
<i>Ingredient</i>	<i>Gram weight</i>	<i>Energy</i>	<i>Protein</i>	<i>Fat</i>	<i>Carbo-hydrate</i>	<i>Fiber</i>	<i>Calcium</i>	<i>Vitamin C</i>
	<i>(g)</i>	<i>kcal</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(g)</i>	<i>(mg)</i>	<i>(mg)</i>
Refined flour	200.00	722.00	23.96	3.32	145.06	4.80	30.00	0.00
Cake margarine	96.00	685.44	0.17	76.80	0.68	0.00	2.88	0.00
Eggs	150.00	214.50	18.84	14.27	1.08	0.00	84.00	0.00
Baking powder	5.00	4.85	0.01	0.02	2.35	0.11	216.60	0.00
Sugar	104.00	402.48	0.00	0.00	103.98	0.00	1.04	0.00
Milk	53.00	51.41	1.99	3.65	2.75	0.00	89.57	1.21
Vanilla essence	1.00	2.97	0.07	0.04	0.58	0.00	0.11	0.01

<i>Total</i>	<i>609.00</i>	<i>2083.65</i>	<i>45.04</i>	<i>98.10</i>	<i>256.47</i>	<i>4.91</i>	<i>424.20</i>	<i>1.22</i>
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Table no.10: Nutritive value of standardized muffin**Graph no.10: Total nutrient content of muffin**

It can be revealed from graph that, muffin found to be high in the percentage of calcium as compared to other nutrients because recipe contains baking powder, eggs & milk. Second highest percentage of nutrient contain was carbohydrates because recipe contains refine flour & sugar. Muffin contains zero percentage of 'vitamin c' because recipe contains no ingredient which contains 'vitamin c'

Comparative study per nutrient for standardized product:

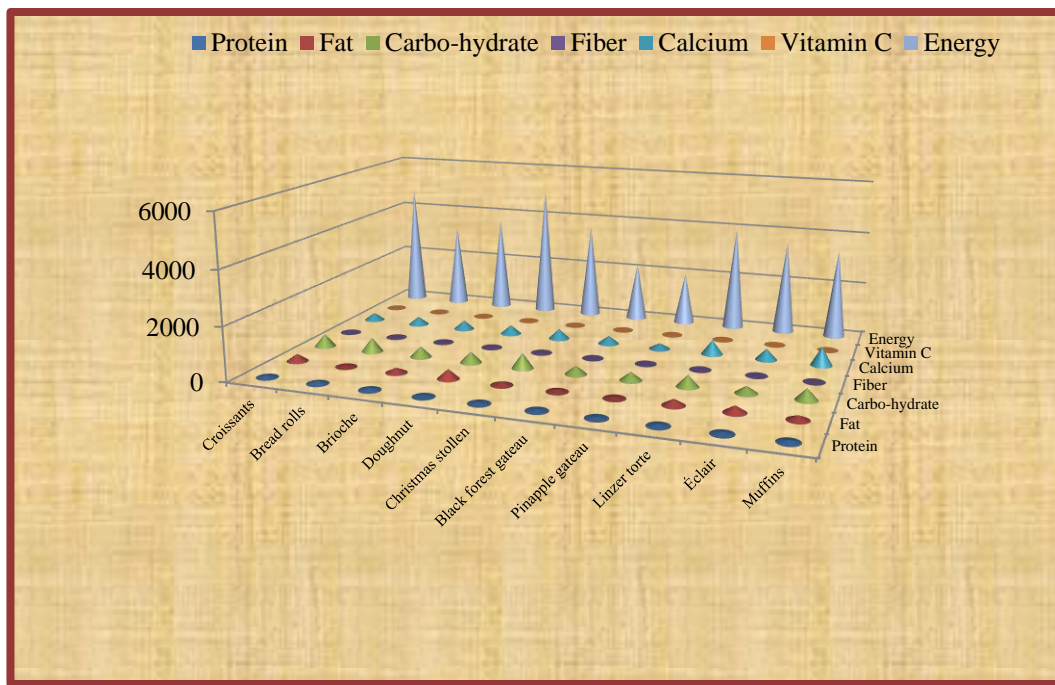
Next we shall compare the products based individual nutrient only. For example, how much protein is there in each component? For that there must be uniformity in weight of each product. So, the table was converted into uniform weight of each product as 1 kg.

S. no.	Name of product	Gram weight	Energy (Kcal)	Protein (g)	Fat (g)	Carbo-hydrate (g)	Fibre (g)	Calcium (mg)	Vitamin c (mg)
1	<i>Croissant</i>	1000	4710.17	78.04	276.78	479.17	15.60	285.08	1.16

2	<i>Bread rolls</i>	1000	3229.50	98.61	72.34	535.80	17.00	310.30	1.80
3	<i>Brioche</i>	1000	3672.39	81.41	189.51	406.30	10.00	340.27	2.40
4	<i>Doughnut</i>	1000	5021.23	42.86	360.03	417.90	11.50	339.98	3.30
5	<i>Christmas stollen</i>	1000	3644.15	66.47	123.03	576.40	23.50	378.17	7.80
6	<i>Black forest gateau</i>	1000	2251.89	56.13	84.75	318.90	15.50	302.75	3.20
7	<i>Pineapple gateaux</i>	1000	2010.67	53.57	60.61	314.60	4.30	215.69	6.80
8	<i>Linzer torte</i>	1000	3986.39	65.91	230.80	428.80	15.00	548.13	11.30
9	<i>Éclair</i>	1000	3596.82	69.69	250.10	268.00	10.40	421.86	0.40
10	<i>Muffins</i>	1000	3421.43	73.95	161.08	421.10	8.10	696.55	2.00

Table no.11: Energy & nutrition content for 1 kg of each bakery & confectionery product

Above table reveals that high energy content is in doughnut & low in pineapple gateau. High protein content is in bread roll& low in doughnut. High fat content is in doughnut & low in pineapple gateau. High carbohydrate content is in Christmas stollen& low in éclair. High fibre content is in Christmas stollen again & low in pineapple gateau. High calcium content is in muffin& low in pineapple gateau. High 'vitamin c' content is in Linzer torte& low in éclair.



Graph no. 44: Nutrients per kilogram of each product

4. Suggestions and recommendations

- Operational training of Food & Beverage production and service is important so that nutritional content of the products can be understood and suggested to the customers in various outlet of the hotel as per their demands.
- Nutritional contents of the bakery and confectionery items can be assessed after baking the products.
- Large number of the bakery goods can be taken for the further study.
- The study can be carried out in five star of various cities instead of doing just in one city

5. Conclusion

Almost all the five star hotel on globe has bakery and the confectionery section in the kitchen. Some hotels have separate bakery and confectionery sections and functions of the both sections are varied. Generally in bakery section various types of yeast leaven products are made and in confectionery section various chocolate, sugar, and flour confections are prepared. So the nutritional content of bakery and confectionery products is not same. Confectionery products contain more sugar than bakery products. The standardized recipes help to make standardized product and calculate accurate nutritional content because recipes has quantity. Doughnut is high in energy & pineapple gateau contains low. Bread rolls have high protein content & doughnut has low protein. High fat content is in doughnut & low in pineapple gateau.

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