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## NUTRITIONAL ANALYSIS OF PAUSHTIKA BISCUIT AND WHEAT FLOUR BISCUIT-AYURVEDIC NUTRITIVE FORMULATION

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Food Nutritional Analysis is needed to produce nutrition facts labels. Foods are processed can also require lab testing. Nutrient values required for Nutrition Facts Labels, these include Calcium, Calories from Fat, Total Calories, Total Carbohydrates, Cholesterol, Saturated Fat, Total Fat, Dietary Fiber, Iron, Protein, Sodium, Sugars, Vitamin D, and Potassium. (Ash and Moisture results are also included). The two test drug samples were analysed at Equinox Lab Mumbai, i.e., *Paushtika* Biscuit and wheat Flour Biscuit. Nutritional and heavy metal analysis of *Paushtika* and wheat flour biscuit was done. In *Paushtika* (per 100 gm) Calcium (353 mg), Calories from Fat (289.44 Kcal), Total Calories (531.44 Kcal), Total Carbohydrates (54.36 gm), Iron (64.2 mg), Protein (6.14 gm), Sugars (21.62 gm) was found. In addition, Ash (1.8 gm) and Moisture (5.54 gm) was analysed. In heavy metal analysis *Paushtika* biscuit found lead <1 ppm. In wheat flour biscuit (per 100 gm) Calcium (160 mg), Calories from Fat (267.03 Kcal), Total Calories (528.43 Kcal), Total Carbohydrates (55.23 gm), Iron (5.53 mg), Protein (10.12 gm), Sugars (16.59 gm) was found. In addition, Ash (0.86 gm) and Moisture (4.12 gm) was analysed. In heavy metal analysis wheat flour biscuit found lead <1 ppm.

**Keywords:** Ayurveda, Nutritional Analysis, *Paushtika* Biscuit, Wheat Flour Biscuit

### INTRODUCTION

Nutrition affects mainly on both health and human disease. Ayurveda merges foods (wholesome food or Diet) and drugs (*Ausadha*) inside the concept of therapeutics, to preserve management of the *Doshas* or physiological factors according to characteristic irregularity. One of the foremost necessary components of intervention is nutrition. Ensuring regular consumption of recommended intake of vitamins, mineral and other nutrients that our body needs, is vital in maintaining healthy physic and mind. Nutritional analysis refers to the method of formative the nutritional content of foods and food products. The procedure can be performed through a

multiplicity of authorized methods ([https://en.wikipedia.org/wiki/Nutrition\\_analysis](https://en.wikipedia.org/wiki/Nutrition_analysis)). The effectiveness of those medications principally depends upon the right use and sustained handiness of real raw materials. To ensure the standard and safety of flavorer product, standardization is of vital importance. Nutrition is a fundamental need. Various risk factors associated with health result from an imbalance in nutrition. These imbalances in the Indian field unit resulted in widespread results. A certain part of the population consumes a diet that does not provide enough calories and adequate nutrients. Dietary supplements and flavor treatments are common supplements or different products for Indian people. These fields supply the unit which is considered

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to supplement the field unit diet and contains one or many dietary elements (vitamins, minerals, herbs or other vegetation, amino acids, and other substances) or their component. A particular cluster of chemicals or one chemical could also be isolated from biology and sold-out as a dietary supplement, typically in pill or capsule type.

Ayurvedic formulations are gaining importance nowadays as they are economic, easily available and relatively free from side effects. It is important to bring the use of these remedies in existing framework of scientific usage. Food is that the major supply for serving the biological process wants, but with growing modernization some traditional ways are being given up. Affluence of working population with changing lifestyle and reducing affordability of sick care, in terms of time and money involved, are some of the forces that are presently driving people towards thinking about their wellness. Ayurveda, the standard Indian medication, remains the most ancient yet living traditions. Although Asian country has been triple-crown in promoting its therapies with a lot of analysis and science-based approach, it still needs more extensive research and evidence base. Increased facet effects, lack of curative treatment for several chronic diseases, high cost

of new drugs, microbial resistance and emerging, diseases are some reasons for renewed public interest in complementary and alternative medicines. Numerous nutraceutical combos have entered the international market through exploration of ethno medicine claims created by totally different ancient practices. This review gives Ayurvedic system of medicine and its role in tradition medicine in order to overcome malnutrition and related disorders. Standard process of drug analysis and pharmaceutical study of *Paushtika* Biscuit and Wheat Flour Biscuit was done.

### Aims of the Study

To analysis Nutritional contains and heavy metal analysis of *Paushtika* Biscuit and Wheat flour Biscuit.

### MATERIAL AND METHOD

The two test drug samples were analysed at Equinox Lab Mumbai. Ingredients of *Paustika* Biscuit and wheat Flour Biscuit with proportion shown in Table 1.

1. Sample-*Paushtika* biscuit
2. Sample-Wheat flour Biscuit

**Table 1: Ingredients of *Paustika* Biscuit and Wheat Flour Biscuit with Proportion**

S. No.	Name	Latin Name	Part to be Used	Proportion
<b><i>Paustika</i> Biscuit</b>				
1	<i>Godhuma</i>	<i>Triticum turgidum</i> var mirabile	Seed	50%
2	<i>Makhana</i>	<i>Euryale ferox</i> Salisb	Fruit	10%
3	<i>Amalaki</i>	<i>Emblica officinalis</i> Gaertn.	Dried Fruit	1 Part
4	<i>Madhuyashti</i>	<i>Glycyrrhiza glabra</i> Linn.	Root	1 Part
5	<i>Mandukaparni</i>	<i>Centella asiatica</i> Linn.	<i>Panchanga</i>	1 Part
6	<i>Guduchi</i>	<i>Tinospora cordifoila</i> Willd.	Stem	1 Part
7	<i>Atibala</i>	<i>Abutilon indicum</i> Linn.	Root & seeds	1 Part
8	Dry <i>Kharjoora</i>	<i>Phoenix dactylifera</i> Linn.	Dried Fruit	1/3 <sup>rd</sup> of Total
9	<i>Shunthi</i>	<i>Zingiber officinale</i> Roxb.	Rhizome	1/10 <sup>th</sup> Part
10	<i>Pravala</i>	Coral	Bhasma	1/10 <sup>th</sup> Part
11	<i>Mandura</i>	Red iron oxide	Bhasma	1/10 <sup>th</sup> Part
12	Sugar	-	-	- QS -
<b>Wheat Flour Biscuit</b>				
1	<i>Godhuma</i>	<i>Triticum turgidum</i> var mirabile	Seed	100%
2	Sugar	-	-	- QS -

## Observation and Result

Nutritional and heavy metal analysis of *Paushtika* and wheat flour biscuit shown in Tables 2, 3, 4 and 5.

## DISCUSSION

Wheat provides nearly fifty fifth of saccharide and two hundredth of the food calories. It contains carbohydrate 78.10%, protein 14.70%, fat 2.10%, minerals 2.10% and considerable proportions of vitamins and minerals. Wheat is additionally a decent supply of traces minerals like Se and metal, nutrients essential to good health. Wheat grain exactly referred to as grain consists of the natural covering or fruit and also the true seed. In the reproductive structure of the seed, about 72% of the protein is stored, which forms 8-15% of total protein per grain weight. Wheat grains also are made in B complex, riboflavin and some minerals, sugars, etc. (Kumar et al., 2011). Total Fat and Sugar were present more in *Paushtika* biscuit than Wheat flour biscuit. Carbohydrates and protein was present more in Wheat flour

**Table 2: Nutritional Analysis of *Paushtika* Biscuit per 100 gm**

S. No.	Parameters	Methods	Results of Analysis
1	Total Fat	FSSAI Manual	32.16 gm
2	Protein	FSSAI Manual	6.14 gm
3	Carbohydrates	By Difference	54.36 gm
4	Caloric Value	By Calculation	531.44 Kcal
5	Sugar	FSSAI Manual	21.62 gm
6	Moisture	FSSAI Manual	5.54 gm
7	Ash	FSSAI Manual	1.8 gm
8	Calories from Fat	By Calculation	289.44 Kcal
9	Crude Fiber	FSSAI Manual	2.74 gm
10	Saturated Fat	AOAC	12.15 gm
11	Cholesterol	AOAC	Nil
12	Calcium	IS 7874 Part II	353 mg
13	Sodium	By Flame Photometer	125 mg
14	Vitamin A	IP	280 IU
15	Vitamin C	IP	Nil
16	Dietary Fibre	IS 11062	1.23 gm
17	Iron	By AAS	64.2 mg

**Table 3: Heavy Metal Analysis of *Paushtika* Biscuit**

S. No.	Parameters	Method	Results of Analysis
1	Lead	By AAS	<1 ppm
2	Cadmium	By AAS	Nil
3	Arsenic	By AAS	Nil
4	Mercury	By AAS	Not Detected

**Table 4: Nutritional Analysis of Wheat Flour Biscuit per 100 gm**

S. No.	Parameters	Methods	Results of Analysis
1	Total Fat	FSSAI Manual	29.67 gm
2	<b>Protein</b>	FSSAI Manual	10.12 gm
3	Carbohydrates	By Difference	55.23 gm
4	Caloric Value	By Calculation	528.43 Kcal
5	Sugar	FSSAI Manual	16.59 gm
6	Moisture	FSSAI Manual	4.12 gm
7	Ash	FSSAI Manual	0.86 gm
8	Calories from Fat	By Calculation	267.03 Kcal
9	Crude Fiber	FSSAI Manual	0.69 gm
10	Saturated Fat	AOAC	5.89 gm
11	Cholesterol	AOAC	Nil
12	Calcium	IS 7874 Part II	160 mg
13	Sodium	By Flame Photometer	0.43 mg
14	Vitamin A	IP	240 IU
15	Vitamin C	IP	Nil
16	Dietary Fibre	IS 11062	1.12 gm
17	Iron	By AAS	5.53 mg

**Table 5: Heavy Metal Analysis of Wheat Flour Biscuit**

S. No.	Parameters	Methods	Results of Analysis
1	Lead	By AAS	<1 ppm
2	Cadmium	By AAS	Nil
3	Arsenic	By AAS	Nil
4	Mercury	By AAS	Not Detected

biscuit due to 100% contain is wheat. On other hand carbohydrate and protein present in *Paushtika* biscuit is 54.36 gm/100 gm and 6.14 gm/100 gm respectively. Calorific Value (531.44 Kcal/100 gm) is more in *Paushtika* Biscuit than Wheat Flour Biscuit (528.43 Kcal/100 gm) is due to presence *Makhana*. The calorific value of raw seeds of *Makhana* is 362 Kcal/100 g) and puffed seeds is 328 Kcal/100 g) (Mamta Shankar et al., 2010). Calories from fat by calculation method in *Paushtika* biscuit is 289.44 Kcal/100 gm and in Wheat flour biscuit is 267.03 Kcal/100 gm. this is also due to wheat, *Makhana* and sugar are main contain of *Paushtika* Biscuit. *Makhana* (*Euryale ferox Salisb.*) having low fat content, high contents of carbohydrates, super molecule and minerals. *Makhana* may be a smart supply of saccharide, macromolecule and minerals. The chemical constituents of the puffed kernels (g/100 g) are 12.8 moisture, 76.9. Carbohydrate, 9.7 proteins, 0.1 fats, 0.5 total minerals, 0.02 calcium, 0.9 phosphorus, 0.0014 irons.

## CONCLUSION

Total Fat and Sugar were present more in *Paushtika* biscuit than Wheat flour biscuit while carbohydrates was present more in Wheat flour biscuit than *Paushtika* biscuit. Protein is more in wheat flour biscuit and Calorific Value (531.44

Kcal/100 gm) is more in *Paushtika* Biscuit than Wheat Flour Biscuit (528.43 Kcal/100 gm). This both biscuits was supply the nutritional need in protein energy malnourished children. According to Ayurveda *Karshya* is addressed as protein energy malnutrition. *Karshya* not only energy imbalance between input and output of energy it is occurring due to *Angni Mandya*. While treating the patients of *Karshya*, patients *Agni* should treat properly and *Paushtika* biscuit having *Agnidipan* property. *Paushtika* biscuit contain the *Aushadhi Dravya* and they can improve the immunity. Similarly, Wheat flour biscuit having good nutritional value so it is good source of energy and protein and it can also useful in protein energy malnourished children.

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