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A REVIEW ON THE INDICATION AND CONTRAINDICATION FOR THE CONSUMPTION OF ROTI, PHULKA, PARANTHA, CHAPATI AND POORI AS PATHYA AND APATHYA IN THE SHADRTUS W.S.R. TO THE NUTRITIVE VALUES

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ABSTRACT

Ayurveda is the divine medicine which is designed to distinctly explain the merits and demerits, state of happiness or otherwise good and bad for life and life itself within their parameters. It's said that happiness is nothing but owning good health which can be achieved by Trayopasthamba i.e. Ahara, Nidra and Bhramhacharya. Ahara when consumed according to the Rtucharya concept plays a vital role in the maintenance of good health. As Ahara vargVargase their special phenomenal approach in Ayurveda where Godhuma had its importance as a staple food in most of the states in India. The recipes generally are five in number and are prepared with wheat flour and are consumed commonly are Roti, Phulka, Parantha, and Chapati. While the gunas of all the above recipes are explained in a wide range of Nutrition and its

values individually. So, here in this article, the above four recipes as Pathya and Apathya concerning various rtus are mentioned as a review study.

KEYWORDS: Ahara, Rtu charya, Godhuma, Pathya Ahara, Shadrtus.

INTRODUCTION

Ayurveda is an ancient medicine which describes that the maintenance of health and prevention from diseases can be achieved through food through seasons and cycles of nature.

Trayopasthambas Ahara, Nidra and Brahmacharya are the subsidiary pillars which support the body by providing strength, complexion and Immunity.^[1] Food has been given reputed importance since the Vedic period. It is considered mahabhaisajya according to kashyapa.^[2] Hence, the food consumed daily is very important in daily life. Ahara is mentioned especially according to the shad rtus.

REVIEW ON AHARA

PARIBHASHA

It is derived from the route

PA + ANG + DHANYG PRATYAYA

NIRUKTI

Ahara is a substance which is ingested with the help of the tongue through the throat. ^[3] It is considered as the supreme or Brahma. All the beings originate from food, food is responsible for the life of all beings and Anna is present in all living beings in the form of Annamaya kosha. ^[4] Charaka acharya explained that the human body is born from food and diseases are also produced by food, happiness and unhappiness depend on the use of suitable food respectively. ^[5] Susruthacharya mentioned that food enhances memory, enthusiasm, Agni, lifespan, lustre and ojas. ^[6] Bhagwad Gita related food to coordinating the human mental status. ^[7]

AHARA DRAVYA VARGIKARANA[8]

According to Charaka Acharya Cha.sut

- 1) Shuka dhanya
- 2) Sami dhanya
- 3) Masa varga
- 4) Shaka varga
- 5) Phala varga
- 6) Harita varga
- 7) Madya varga
- 8) Ambu varga
- 9) Gorasa varga
- 10) Ikshu varga
- 11) Krutanna varga
- 12) Ahara yoni varga

REVIEW ON SUKHA DHANYA VARGA^[9]

Sukha means the outer covering of the grain. In this group cereals and grains are included.

- 1) Shali Varga are the varieties of rice
- 2) Truna dhanya varga includes a group of grains produced by grass-like plants.

Godhuma is included under Truna dhanya varga itself.

VERNACULAR NAMES OF GODHUMA^[10]

- 1) Sanskrit names godhuma
- 2) Hindi name gehun
- 3) Telugu name godhumalu
- 4) Kannada name godhi
- 5) Malayalam name godhambu
- 6) English name wheat

SCIENTIFIC CLASSIFICATION^[11]

1) Kingdom: Plantae

2) Order: Poaes

3) Family: Poaceae

4) Subfamily: Pooideae

5) Tribe: Triticeae

6) Genus: Triticum L

SYNONYMS OF GODHUMA^[12]

- 1) Bahu dugdha
- 2) Arupa
- 3) Sumana
- 4) Mleecha bhojana

TYPES OF GODHUMA^[13]

There are two types of godhuma

- 1) Madhuli a minor smaller variety of wheat
- 2) Nandi mukhi a variety of wheat which has blunt ends

Table NO: 1.

MADHULI	NANDI MUKHI
Hima	Hima
Snigdha	Snigdha
Pittaghna	Pittaghna and kaphaghna
Madhura	Madhra Kashaya
Guru	Laghu
Shukrala	Shukrala
Bhruhmana	Karsya

WHITE AND RED WHOLE WHEAT FLOUR^[14]

many people think white whole wheat flour is a mixture of white flour and whole wheat flour, but that's not the case. white whole wheat flour is 100% whole wheat — but it is made from a different kind of wheat. regular whole wheat flour is made from "red" wheat, while white whole wheat flour is made from "white" wheat. White wheat has a more subtle flavour and a lighter colour than red wheat, but the nutritional values of the two are identical. Although its identity still has the nutritional benefits of whole wheat flour.

Table no 2: Rasa panchaka.^[15]

RASA	MADHURA
GUNA	GURU
VIRYA	SHEETA
VIPAKA	MADHURA
	VRISHYA, JEEVANIYA,
	BHRAMANIYA, SANDHANAKARI,
KARMA	VATA PITTAHARA,
	KAPAHAKARA, BALYA, SARA,
	STHAIRYA KRUT, VARNYA

OVERVIEW OF NUTRITION AND ITS CLASSIFICATION^[16]

Nutrition may be defined as the science of food and its relationship to health. It is concerned primarily with the part played by nutrients in body growth, development and maintenance. The word Nutrient or "food factor" is used for specific dietary constituents such as proteins, vitamins and minerals. Dietetics is the practical application of the principles of nutrition; it includes the planning of meals for the well and the sick. Good nutrition means "maintaining a nutritional status that enables us to grow well and enjoy good health". The subject of nutrition is very extensive. Since our concern is with community aspects of nutrition, the subject will be dealt with in five sections: dietary constituents, nutritional requirements, assessment of nutritional status, nutritional problems in public health and nutritional programmes in India.

CLASSIFICATION OF FOOD BY CHEMICAL COMPOSITION

- 1. Macronutrients
- 2. Micronutrients

Macronutrients are required by the body in relatively large amounts; micronutrients are needed in minute amounts. Macronutrients constitute the bulk of the diet and supply energy and many essential nutrients. 1) Carbohydrates 2) proteins, and 3) fats are the macronutrients in food, nutrients that are required daily in large quantities. They supply 90% of the dry weight of the diet and 100% of its energy. All three provide energy which is measured in calories. These nutrients also differ in how quickly they supply energy. Carbohydrates are the quickest, and fats are the slowest. Micronutrients are vitamins and minerals. Vitamins and minerals are essential nutrients. That is, they cannot be made by the body from other substances in the diet. Thus, vitamins and minerals must be consumed in the diet, are classified as 1) Water soluble: Vitamin C and the eight members of the vitamin B complex 2)Fat-soluble: Vitamins A, D, E, and K. Only vitamins A, E, and B12 are stored to any large extent in the body. Some minerals are required in very large quantities (about 1 or 2 grams a day) and are considered macronutrients. They include calcium, chloride, magnesium, phosphorus, potassium, and sodium. Minerals required in small amounts (trace minerals) are considered micronutrients. They include copper, chromium, manganese, molybdenum, selenium, and zinc. Except for chromium, all these minerals are incorporated into enzymes or hormones required in metabolism.

THE NUTRITIONAL BENEFITS OF WHOLE WHEAT FLOUR^[16]

Since whole wheat flour is made with both the bran and the germ, which are the most nutritious parts of the wheat kernel, whole wheat flour has several health benefits, including:

- Whole wheat flour is a good fibre, protein, and carbs source.
- It is high in folate and vitamins, including B vitamins.
- It is high in minerals such as manganese and magnesium.
- It is known to reduce LDL (bad) cholesterol levels, which can lower one's risk of heart disease, heart attacks, and strokes.

RECIEPES OF GODHUMA^[17]

Various recipes are prepared with wheat flour but generally, four of them are commonly consumed they are.

1) Roti

- 2) Paratha
- 3) Chapati
- 4) Phulka
- 5) Puri

ROTI AS A RECIPE AND ITS NUTRITIONAL FACTS^[18]

The roti is a traditional unleavened flatbread from the Indian subcontinent The word roti is derived from the Sanskrit word $(rotik\bar{a})$, meaning "bread". ("Rotika (रोटिका)" Spoken Sanskrit. Retrieved 25 March 2007) and its generally called flatbread in English.

PREPARATION

Roti is an integral part of Indian cuisine, north Indian cuisine especially. The atta or wheat flour has to be kneaded as soft dough. Kneading must be carried out until an impression is created when you press the dough with your fingers. After kneading the dough, cover it with a damp cloth or a damp paper towel and let it rest for 20 to 30 minutes. This makes the rolling easier, the rotis will be so much better. Roll each dough ball to a smooth ball, round and with no cracks to roll a good roti, start making sure that the dough that is going to be rolled is round and smooth. Make round balls with a small quantity of dough and press them between your palms and start to Roll evenly using a rolling pin on a rolling pad. apply equal pressure while rolling, Move the rolling pin through the rolled roti so that it rolls evenly from all sides. Tawa or iron plate should be hot before you add the rolled roti. Dust the dry flour from the rolled roti before putting it on the hot tawa- it makes your roti less dry and softer. Place the rolled roti on the tawa when small bubbles appear on the roti turn the other side of the roti on the tawa with a fork and then use a thick cloth and start rolling the roti in a round direction until all the sides are properly cooked and when roti becomes in light brownish colour remove the roti from the tawa, Smear ghee or butter to clear the dryness when it's hot and the roti is ready to be served or to be consumed.

Table No: 3^[18]

Serving size	100g
Don games Engage	1105kj
Per serve Energy	264 kcal
Fat	
Saturated fat	1.3 g
Monosaturated fat	0.228 g
Polyunsaturated fat	0.552 g
Carbohydrates	55.81 g
Sugar	0.28 g
Fibre	7.1 g
Protein	9.61 g
Sodium	486 mg
Cholesterol	0 mg
Potassium	239mg

Serving Size	Calories
• 1 small (15 cm)	71
• 1 oz	75
• 1 serving (35 g)	92
• 1 medium (18 cm)	106
• 1 large (20 cm)	137
1 extra large (25 cm)	185
■ 100 g	264

PHULKA AS A RECIPE AND ITS NUTRITIONAL FACTS^[19]

Phulkas are also known as Indian flatbreads. It's only that they swell up with steam where they are given a theme phulka keeping the Hindi word phulna i.e swelling up.

PREPARATION

The atta or wheat flour has to be kneaded as soft dough. Follow the same procedure of kneading that is performed for kneading the rotis. After kneading the dough, cover it with a damp cloth or a damp paper towel and let it rest for 20 to 30 minutes. This makes the rolling easier, the phulka will be so much better. Roll each dough ball to a smooth ball, round and with cracks to roll just like rotis, start making sure the that dough that is going to be rolled is round and smooth. Roll evenly using a rolling pin on a rolling pad. apply equal pressure while rolling, Move the rolling pin through the rolled phulka so that it rolls evenly from all sides. Tawa or iron plate should be hot before you add the rolled phulka. Dust the dry flour from the rolled phulka before putting it on the hot tawa- it makes your roti less dry and softer. Place the rolled phulka on the tawa when small bubbles appear on the phulka turn the other side of the phulka directly on the flame with a fork and then repeat it on the other side

also until all the sides are properly cooked when the phulka is swollen becomes in light brownish colour remove it from the flame, and the phulka is ready to be served or to be consumed. Some parts of India smear ghee or butter on phulkas to clear the dryness and to add taste.

Table No: 4^[19]

Serving size	100g
Per serve Energy	1100kj
	260 kcal
Fat	
Saturated fat	1.2 g
Monosaturated fat	0.223 g
Polyunsaturated fat	0.550g
Carbohydrates	55.78 g
Sugar	0.24 g
Fibre	7 g
Protein	9.57 g
Sodium	479 mg
Cholesterol	0 mg
Potassium	234mg

serving Size	Calories
• 1 small (6")	71
• 1 oz	75
• 1 medium (7")	106
• 1 large (8")	137
• 1 extra large (10")	185

PARATHA AS A RECIPE AND ITS NUTRITIONAL FACTS^[19]

Paratha is a basic Indian unleavened layered or stuffed flatbread which is derived from the Indian subcontinent. Parathas are versatile and can be relished commonly in breakfast since its heavy for digestion. Generally, paranthas if only layered with flour have more carbs and fats but if they are layered with any vegetable stuff they have more fibre content. Depends on which way of intake the person requires.

PREPARATION

For about 250gms of whole wheat flour add 1/4tsp of salt and 2tsps of oil to a mixing bowl. Add 1 medium-sized cup of water. Begin to mix the flour and start kneading the dough with knuckles for about 10mins till the texture of the dough become soft and pliable. Wrap it in a moist cloth and cover it for 30 mins. After 30 mins divide the dough into a medium fist full size and start rolling the dough with a rolling pin on a rolling pad. Fold the dough into 3 to 4

layers once it becomes a medium-sized flat roti. Continue to apply ghee while rolling every layer and apply a few sprinkles of flour also. Once it becomes two palms full length and width start roasting it on the pan and apply 2 to 3 tips on both sides till the paranthas become light brownish in colour. And in the case of stuffed paranthas one has to stuff in the grated veggies while layering and then paranthas are made.

Table No. 5^[19]

Serving size	100 g
Per serve Energy	264 kcal
Fat	1.3g
Saturated fat	1.22 g
Monosaturated fat	0.158 g
Polyunsaturated fat	0.552g
Carbohydrates	55.81 g
Sugar	0.28 g
Fibre	7.1 g
Protein	9.61 g
Sodium	486 mg
Cholesterol	0 mg
Potassium	239mg

Serving Size	Calories
• 1 small (15 cm)	71
• 1 oz	75
• 1 serving (35 g)	92
• 1 medium (18 cm)	106
• 1 large (20 cm)	137
1 extra large (25 cm)	185
● 100 g	264

CHAPATI AS A RECIPE AND ITS NUTRITIONAL FACTS^[19]

a flat coarse unleavened bread resembling a pancake. It's only the chapati that is cooked on the tawa later the oil is sprinkled on all the sides of the pan and then it's cooked until it's puffed.

PREPARATION

Knead the flour with necessary salt and oil in a bowl and enough water to make a soft dough which makes an impression when we press our fingers in the dough. Divide into 10 pieces, or less if you want bigger loaves of bread. Roll each piece into a ball using the rolling pan and rolling pin. Let rest for a few mins. Heat a frying pan over medium heat until hot, and grease lightly. use a rolling pin to roll out the balls of dough until they get flattened. When the pan

starts smoking, put a chapati on it. Pour drops of oil on all the sides of the chapati and start applying pressure on all the edges until it's puffed and then flip on the other side. Cook until the underside has brown spots, about 30 seconds.

Table No. 6.[19]

Serving size	100 g
Per serve Energy	264 kcal
Fat	1.3g
Saturated fat	1.22 g
Monosaturated fat	0.158 g
Polyunsaturated fat	0.552g
Carbohydrates	55.81 g
Sugar	0.28 g
Fibre	7.1 g
Protein	9.61 g
Sodium	486 mg
Cholesterol	0 mg
Potassium	239mg

Serving Size	Calories
• 1 small (15 cm)	71
• 1 oz	75
• 1 serving (35 g)	92
• 1 medium (18 cm)	106
• 1 large (20 cm)	137
■ 1 extra large (25 cm)	185
● 100 g	264

POORI AS RECIPE AND ITS NUTRITIONAL FACTS^[19]

Poori also spelt as puri is an Indian fried bread made with just 3 ingredients. Traditional puri recipe uses wheat flour, salt and water generally while mixing some parts of semolina makes the puri hold its puffed shape longer. While the whole wheat flour puri tastes nutty and those made with a mix of all-purpose flour taste smooth. Small portions of unleavened dough are rolled into small discs and deep-fried in hot oil until the puri puffs as soon as it hits the hot oil. First, mix 3 cups whole wheat flour (360 grams), 1 teaspoon salt, and 1 teaspoon oil (optional) in a large bowl. For crispier puri, you can add ¼ cup fine rava (sooji or semolina). Add just a bit of water at a time as you begin to form the dough, making sure to not oversaturate the mixture. Knead the dough. Continue to knead until you form a stiff, tight dough. Next, use the palm of your hand to lightly flatten the dough ball, and then apply a bit of oil to the entire surface. Use a rolling pin to roll the poori dough evenly into circles that aren't too thick or too thin. Ideally, you want them to be about ¼ inch thick. Then place the

rolled poori on a plate, and loosely cover it with a clit and kitchen towel so that they don't dry out. In a deep tawa drop the rolled pooris once you have the oil to the right temperature, carefully add one puri at a time. It should begin to puff up almost immediately after it hits the hot oil. Next, turn over the poori and gently press down with the slotted spoon as it fries for a few more seconds. This will ensure that there's a lovely brown colour on all sides.

Table No: 7.^[19]

Serving size	100G
Per serve Energy	296 Cal
Fat	9.43 g
Saturated fat	1.422 g
Monosaturated fat	3.77 g
Polyunsaturated fat	3.58 g
Carbohydrates	0 mg
Sugar	0.21 g
Fibre	1.8 g
Protein	7.54 g
Sodium	685 mg
Cholesterol	0 mg
Potassium	161mg

Serving Size	Calories
♦ 1 small	84
• 1 medium	107
1 large	112
• 100 g	296

REVIEW ON SHAD RTUS^[20]

Lord Surya or the Lord of Health is the superior power for leading this whole earth and human beings. So, the Rtus also evolved according to his movement, power, and rasi.

NIRUKTI

Dalhana commented on susrutha chikitasa sthana that Rtu is the synonym of time.

PARIBHASHA OF RTU CHARYA

Rtu = season

Charya = regimen

The movement of the Sun from one Rasi to the other is known as Rtu charya. [11]

1. CLASSIFICATION^[20]

The year is divided into 6 parts according to seasons. The northward movement of the sun and its act of dehydration brings about 3 seasons beginning from later winter to summer which is called Uttrayana where Adana kala commences. The southward movement of the sun and its act of hydration gives rise to the other three seasons beginning with rainy to early winter called.

TABLE NO: 8^[20]

Dakshinayana where Visarga kala commences. Every two masas comprise a Rtu. Commencing from magha are the six rtus sisira, Vasant, and grisma under Adanakala. Varsha, sharad, Hemanta under Visarga kala. According to the climatic conditions Acharyas divided the predominant Rasas, bala and Agni in the particular Rtu with particular Doshas respectively. As it's explained in the above table the Agni bala according to the rtus it's taken into consideration with the order of digestion that carbohydrates, proteins and fats take more time for digestion respectively. So, with this concept, we are going to classify the 5 items that could be taken in the respective rtus. As shown in the above table Rotis, Pulkas and chapatis consist of high amounts of carbohydrates, protein, fibre and fats respectively while paratha consists of high amounts of carbohydrates, fats, fibre, and protein respectively and Puri consists of high amounts of fats, fibre, protein respectively with nil carbohydrates. So, by this, we can conclude the heaviness of all five recipes by considering the earliest digestive recipe i.e., Roti, Phulka, Chapati, Parantha, Puri.

Table No: 9.

Rtu	Rauksya guna	Rasa	Pancha Mahabuta	Bala hrasa/ Vriddi	Agni bala
Sisira	Alpa	Tikta	Akasa	Alpa bala hrasa	Teekshnagni
Vasanta	Madya	Kashaya	Prithvi, vayu	Madhyama bala hrasa	Madhyamagni
Grisma	Pravara	Katu	Agni, vayu	Maha bala hrasa	Mandagni
Varsa	Nill	Amla	Prithvi, agni	Alpa bala vriddi	Mandagni
Sharad	Nill	Lavana	Ap, agni	Madhyama bala vridhi	Madhyamagni
Hemant	Nill	Madhura	Prithvi, ap	Uttama bala bridge	Teekshnagni

NUTRITIVE VALUES OF GODHUMA BASED ON THE RECIPES AND HEAVINESS

Table no: 10.

Micro and macro nutrient	Roti/ 100g	Pulka/ 100g	Paratha/ 100g	Chapati/ 100g	Puri/ 100g
Carbohydrate	55.81 g	55.7 g	42g	54.81 g	0 mg
Protein	9.61 g	9.57 g	9.6 g	9.51 g	7.54 g
Fats	1.6 g	1.5 g	14g	1.3 g	9.43 g
Fiber	7.1 g	7 g	7.6 g	7.1 g	1.8 g
Cholesterol	0 mg	0 mg	0.8 g	0 mg	0 mg

Table no: 11.

Rtu	Agni bala	Different recipes with aata to be consumed
Sisira	Teeksnagni	Parantha and poori
Vasanta	Madhyamagni	Chapati
Grisma	Mandagni	Roti or phulka
Varsa	Mandagni	Roti or phulka
Sharad	Madhyamagni	Chapati
Hemanta	Teekshnagni	Parantha and poori

CONCLUSION

- > So, by this, we can conclude the heaviness of all five recipes by considering the earliest digestive recipe i.e., Roti, Phulka, Chapati, Parantha, and Puri in ascending order.
- ➤ Pathya and rtus in conglomeration provide better health which in turn protects any person from life style disorders.
- ➤ Godhuma has its role in terms of nutrition thus providing positive health
- As it's said Arogyam is mahabalam, if one is healthy physically then one could become healthy mentally.

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