



## Review Article

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### DEVELOPMENT OF STANDARDISED DIET PLAN WITH SPECIAL REFERENCE TO BODY CONSTITUTION VIS-À-VIS PRAKRITI IN AYURVEDA: A REVIEW

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#### ABSTRACT

Diet strongly influences health, with poor eating habits and inactivity driving major risk factors like hypertension, hyperglycemia, obesity, and dyslipidemia. Modern nutrition emphasizes nutrient adequacy, whereas Ayurveda integrates constitution-based (prakriti) diet planning with lifestyle principles (ahara, vihara, dinacharya). This study aimed to develop individualized diet plans aligning Ayurvedic guidelines with modern nutrition to prevent malnutrition and noncommunicable diseases (NCDs). A prakriti assessment tool based on classical guna attributes of Vata, Pitta, and Kapha was designed. Food lists were compiled from Ayurvedic texts, categorized as "favour" or "avoid," and cross-referenced with Recommended Dietary Allowances (RDA). Constitution-specific meal plans incorporated nitya sevaniya dravya (universally beneficial foods) and standardized portions. Traditional recipes were modified to balance doshas while ensuring macro- and micronutrient sufficiency. The integrated plans emphasized constitution-appropriate foods while meeting nutrient needs. Vata diets highlighted warm, moist, grounding items; Pitta diets prioritized cooling, anti-inflammatory foods; Kapha diets incorporated light, dry, and metabolism-boosting choices. Universal foods included rice, moong beans, rock salt, amla, ghee, milk, honey, and sesame oil. The framework aligned Ayurvedic principles with WHO dietary recommendations. This integrative model blends personalized Ayurveda with evidence-based nutrition, supporting prevention of NCDs and promoting holistic well-being. Constitution-based planning, rooted in both tradition and science, offers a sustainable approach for personalized nutrition and public health.

**Keywords:** Ayurveda, Prakriti-based diet, Nitya Sevaniya Dravya, Personalized nutrition, Noncommunicable disease prevention

#### INTRODUCTION

Diet refers to the habitual intake of food and drink by an individual, and in nutrition science it encompasses the totality of foods consumed to sustain life processes. Nutrition is the biochemical and physiological use of food for energy production, tissue synthesis, maintenance, growth, reproduction, and elimination of waste. Pike and Brown (1948) defined diet in nutrition as "the science that interprets the relationship of food to the functioning of living organisms," integrating both the intake and metabolic utilization of nutrients. Globally, unhealthy diets combined with physical inactivity constitute major health risks, contributing to four of the world's top ten causes of death—high blood pressure, elevated blood glucose, obesity, and high cholesterol.<sup>1</sup> Dietary patterns have shifted dramatically in recent decades due to urbanization, increased consumption of processed foods, and changing lifestyles, with many populations moving away from home-prepared meals towards commercially prepared foods high in energy, unhealthy fats, free sugars, and sodium. Such trends contribute not only to overweight and obesity but also to a broader spectrum of malnutrition, which includes undernutrition, micronutrient deficiencies, and diet-related noncommunicable diseases (NCDs) such as type 2 diabetes, cardiovascular disease, stroke, and certain cancers. A balanced diet—comprising varied food types in adequate quantities and proportions to meet caloric and micronutrient needs—remains fundamental to health. Dietary choices are influenced by a complex interplay of personal preferences, ethical beliefs, cultural traditions, socioeconomic status, food prices, geographic

availability, and environmental conditions, with individual characteristics such as age, sex, lifestyle, and physical activity further determining nutritional requirements. The World Health Organization outlines the essential components of a healthy diet: a variety of plant-based foods including fruits, vegetables, legumes, nuts, and whole grains; at least 400 g (five portions) of fruits and vegetables daily (excluding starchy roots); limiting free sugars to less than 10% of total energy intake (about 50 g for a 2000 kcal diet), with <5% providing additional benefits; reducing total fat to below 30% of energy intake, emphasizing unsaturated fats (fish, avocado, nuts, and certain vegetable oils) over saturated fats (fatty meat, butter, ghee) and eliminating industrial trans-fats; and limiting salt intake to under 5 g of iodized salt per day. Concurrently, healthcare is witnessing a paradigm shift towards holistic approaches, with Ayurveda—India's ancient medical system derived from the Sanskrit words Ayu (life) and Veda (knowledge)—gaining renewed attention.<sup>1</sup> Rooted in Vedic science, Ayurveda addresses the interconnectedness of body, mind, and spirit, and offers detailed guidance on diet (Ahara) as a central determinant of health. In Ayurvedic philosophy, proper diet alone can maintain or restore balance, while inappropriate diet is a primary cause of disease. Central to this approach is Prakriti—the unique constitutional makeup of an individual determined by the predominance of three doshas: Vata, Pitta, and Kapha. Each constitution exhibits characteristic physical, physiological, and psychological traits, influencing digestion, metabolism, and susceptibility to illness. Consequently, diet should be tailored to the individual's constitution: Vata-predominant individuals benefit from warm, moist, slightly oily,

and grounding foods to counter natural dryness and variability; Pitta types require cooling, non-spicy, and moderately fatty foods to balance metabolic heat; and Kapha types thrive on light, warm, and mildly stimulating foods with minimal heavy dairy, sugars, and fats to offset inherent sluggishness and heaviness. By aligning dietary choices with Prakriti and the qualities of foods, Ayurveda personalizes nutrition in a way that is both preventive and therapeutic. When integrated with modern nutritional science, which quantifies nutrient requirements and focuses on population-wide health guidelines, the Ayurvedic framework offers an enriched, individualized strategy for promoting health and preventing disease. Such integration addresses both the biochemical needs identified by contemporary research and the constitutional considerations emphasized in Ayurveda, providing a comprehensive approach to tackling malnutrition in all its forms and reducing the global burden of chronic disease.<sup>2,3</sup>

### Prakriti Assessment

For this study, a structured questionnaire was prepared using the classical guna (qualities) associated with each dosha—Vata, Pitta, and Kapha. The questionnaire included multiple-choice items covering skin type, body build, complexion, metabolic tendencies, psychological responses, and other constitutional markers. Each question was mapped to a dosha-specific guna and given a score. Respondents' answers were scored, and the cumulative percentage for each dosha determined the dominant prakriti. Correct identification of constitution was the first step before diet planning.<sup>4</sup>

### Food Selection by Constitution

Once the constitution was determined, food selection was carried out using a comprehensive list of items categorized for each prakriti into “favour” and “avoid” lists. These lists were based on Ayurvedic principles of balancing inherent dosha qualities with opposing qualities in food. Separate lists were created for food categories including fruits, vegetables, grains, legumes, dairy products, animal foods, condiments, nuts, seeds, oils, spices, and food supplements.

**Vata:** Favoured warm, moist, oily, and grounding foods; avoided excessively dry, light, or cold foods.

**Pitta:** Favoured cooling, mild, and non-acidic foods; avoided overly hot, sour, or spicy foods.

**Kapha:** Favoured light, dry, warm, and mildly stimulating foods; avoided heavy, oily, and overly sweet foods.

### Integration with Modern Nutrition

The Ayurvedic food lists were cross-referenced with modern Recommended Dietary Allowances (RDA) to ensure adequate calories, proteins, fats, vitamins, and minerals. This was essential for aligning traditional principles with contemporary dietary science. Appropriate portion sizes were derived from RDA tables, ensuring nutrient needs were met without excess. The balanced diet model incorporated cereals, pulses, milk and dairy, vegetables, fruits, fats, and oils in proportions suitable to age, sex, and activity level.<sup>5</sup>

### Meal Planning

Diet plans were prepared according to constitution and RDA norms. Two main meal patterns were outlined:

**One main meal plan** – Morning fruit intake followed by a single main meal (midday) including raw vegetable salad, grains, lentils, seeds, and nuts.

**Two main meal plan** – Morning fruit intake, a first main meal (grains with vegetables) mid-morning, and a second main meal (vegetable salad, grains, pulses, seeds, nuts) in the afternoon or

early evening.

For **morning fruits**, specific recommendations were given for each constitution. Fruits were categorized into berries, pome fruits, stone fruits/tropical fruits, and citrus fruits, with serving sizes standardized (150 g per category). Certain fruits, as per Yoga Ratnakar, were restricted in the morning (e.g., banana, mango, sesame, tamarind) and allowed only later in the day.

For **main meals**, grains and vegetables were selected according to constitution from the curated food lists, with portion control guidelines:

Cooked whole grains: 2–3 servings (240–360 g)

Raw vegetables: 300 g per serving

Steamed vegetables: 75 g per serving

**Main Meal 2** (for two-meal plan) followed similar structure but added constitution-specific pulses, beans, nuts, and seeds with standard serving sizes (e.g., 150–300 g lentils/beans, 60 g nuts, 9 g seeds).

### Nitya Sevaniya Dravya

A list of universally beneficial dietary items (Nitya Sevaniya Dravya) from Charaka Samhita and Ashtanga Hridaya was included. These are foods recommended for daily use irrespective of constitution, such as Shashtika shali (short-duration rice), Godhuma (wheat), Yava (barley), Mudga (green gram), Saindhava (rock salt), Amalaki (Indian gooseberry), Ghrita (cow ghee), Dugdha (cow milk), Madhu (honey), Jangala mamsa (meat from arid-land animals), and Divyodaka (rainwater). A nutritional analysis of these items was provided, noting their energy, protein, micronutrient content, and therapeutic properties.<sup>4,5</sup>

### Standard Ayurvedic Recipes

To facilitate practical application, a set of constitution-balancing Ayurvedic recipes was included, tested for compatibility with modern nutrition. These included:

**Green Mung Soup** – A cooling, high-protein, easily digestible soup balancing all three doshas.

**Mung Dal Kitchari (Tridoshic)** – A rice and lentil preparation beneficial for all constitutions, especially during detox or recovery.

**Upama** – A semolina-based dish adaptable for dosha balance by varying spices.

**Green Bean Sabji** – Lightly spiced green beans adjusted for Vata reduction.

**Cilantro Chutney** – Cooling and tridoshic, with minor modifications for Pitta.

**Shankhar Pali** – A festive snack, recommended in moderation for Kapha.

**Agni Tea** – A digestive stimulant, adjusted for pitta by reducing heating spices.

### Ayurvedic Principles in Menu Design

The design followed the Ayurvedic principle of using the six tastes (Shadrasa—madhura, amla, lavana, katu, tikta, kashaya) in each meal, proportioned according to constitution. Foods were selected to balance the dominant dosha without aggravating the others. Seasonal variations and food compatibility rules (Viruddha Ahara) were respected.

### Portion Control and Cooking Methods

Portion sizes were standardized according to adult serving equivalents, and cooking methods emphasized digestibility: steaming, boiling, light sautéing in ghee or suitable oils. Foods incompatible with specific doshas or harmful in certain combinations (e.g., milk with sour fruits) were excluded.

## DISCUSSION

Diet, defined as the habitual intake of food and drink, plays a pivotal role in both the prevention and management of disease. Unhealthy diets and sedentary lifestyles are recognized by the World Health Organization (WHO) as among the top global risk factors for mortality, contributing substantially to noncommunicable diseases (NCDs) such as cardiovascular disease, diabetes, obesity, and certain cancers. In this study, dietary planning was approached through the lens of Ayurveda, the ancient Indian medical system, which integrates Ahara (food), Vihara (physical activity), and Dinacharya (daily regimen) as pillars for health maintenance. Among these, Ahara is emphasized as both a preventive and curative measure, aligning with the Ayurvedic objective of maintaining equilibrium (Swasthasya Swasthya Rakshanam) and treating disease (Aturasya Vikara Prashamanam).<sup>6</sup>

While modern nutrition offers precise guidelines for macronutrient and micronutrient intake, Ayurveda contributes a unique, constitution-specific (prakriti-based) perspective that tailors diet to the individual's physiological and psychological makeup. Classical Ayurvedic texts list eight determinants of diet (Ashta Ahara Vidhi Vishesha Ayatana): nature of food (Prakriti), processing (Karana), combination (Samyoga), quantity (Rashi), place (Desh), time (Kala), individual constitution (Upayoga Sanstha), and dietary rules (Upayokta).<sup>7,8</sup> This holistic framework considers not only nutrient adequacy but also the energetic and functional qualities of food, its seasonal appropriateness, and its compatibility with the consumer's constitution. The concept of Prakriti Satmya (constitutional conduciveness) further emphasizes that dietary choices should counterbalance the predominant dosha tendencies to maintain homeostasis.<sup>9,10</sup>

### Prakriti-specific diet recommendations and scientific rationale

#### Vata-Predominant Individuals

Vata dosha, dominated by the elements air and ether, is associated with lightness, dryness, and mobility. Vata types are prone to anxiety, variable appetite, and digestive irregularities such as constipation. Ayurvedic recommendations—heavy, moist, warm, and unctuous foods—are aimed at countering these qualities. Scientific literature supports that warm, cooked foods are easier to digest, reducing gastrointestinal discomfort in individuals with sensitive digestion. Inclusion of healthy fats (e.g., ghee, olive oil) enhances caloric density and aids absorption of fat-soluble vitamins (A, D, E, K). Whole grains such as rice and wheat provide complex carbohydrates for sustained energy release, while moist cooking methods (steaming, simmering) help soften fibrous vegetables, making them gentler on the gut. Moisture-rich fruits (e.g., mango, ripe banana, berries) offer hydration and micronutrients, while moderate sourness (e.g., citrus, amla) can stimulate digestive enzymes.

#### Pitta-Predominant Individuals

Pitta dosha, characterized by fire and water, is linked to heat, sharpness, and metabolic intensity. Pitta types often have strong digestion but are prone to inflammation, hyperacidity, and irritability. Ayurveda recommends cooling, mildly sweet, and less oily foods to balance excess heat. From a modern perspective, anti-inflammatory diets align closely with these guidelines. For example, cooling herbs like coriander and mint have been shown to contain antioxidants and anti-inflammatory phytochemicals. Low-acid fruits (pomegranate, melon) and vegetables (cucumber, zucchini) help reduce gastric irritation. Limiting chili, garlic, and acidic foods minimizes mucosal inflammation, while moderate dairy (e.g., milk, paneer) provides calcium without excessive

saturated fat. Coconut water and cucumber have documented hydrating and alkalinizing properties, which help maintain acid-base balance.

#### Kapha-Predominant Individuals

Kapha dosha, dominated by earth and water, is associated with heaviness, coldness, and stability. Kapha types may have slower metabolism, higher fat retention, and tendencies toward lethargy. Ayurveda prescribes light, dry, warm, and mildly pungent foods to stimulate digestion and metabolism. Scientific parallels include the thermogenic effects of spices like ginger, black pepper, and mustard, which can modestly increase metabolic rate and aid in lipid metabolism. Low-fat dairy reduces saturated fat intake, while whole grains like barley and buckwheat have low glycemic indices, supporting weight control. High-fiber fruits (apples, cranberries) promote satiety, while legumes (except oil-rich soybeans) provide lean plant protein without excessive calories. Honey, though used sparingly, offers antimicrobial properties and—according to modern studies—can modulate glycemic response when replacing refined sugars.<sup>12-14</sup>

#### Nitya Sevaniya Dravya – Universally Beneficial Foods

Ayurvedic classics describe a category of foods called Nitya Sevaniya Dravya—items suitable for daily consumption in all constitutions. Examples include:<sup>4-6</sup>

**Oryza sativa Linn (rice):** Easily digestible carbohydrate source, low in anti-nutrients, providing quick energy.

**Moong beans (*Vigna radiata*):** Rich in plant protein, folate, and bioactive compounds with antioxidant and anti-inflammatory effects.

**Rock salt (Saindhava lavana):** Contains trace minerals absent in refined salt; less likely to increase water retention compared to sodium chloride when consumed in moderation.

**Amla (*Emblica officinalis*):** High vitamin C content with potent antioxidant and immune-modulating properties.

**Cow's ghee:** Contains short-chain fatty acids (butyric acid) that support gut mucosal health and have anti-inflammatory effects.

**Milk:** Provides complete protein, calcium, and bioavailable vitamins; traditionally considered a rejuvenative (rasayana).

**Honey:** Demonstrates antimicrobial and wound-healing activity; low moisture content inhibits microbial growth.

**Sesame oil:** Rich in lignans and vitamin E, with antioxidant and cardioprotective potential.

Modern nutrition science affirms that such foods can form part of a balanced diet, offering macronutrients and bioactive compounds that contribute to long-term health and chronic disease prevention. However, Ayurveda emphasizes individualized quantities and seasonal adjustments to optimize their benefits.

#### Integrative Perspective

The convergence of Ayurvedic prakriti-based guidelines with modern nutrition offers a dual advantage:

**Personalization** – Tailoring diets to constitution supports better compliance and addresses individual metabolic tendencies.

**Preventive Health** – Incorporating anti-inflammatory, thermogenic, and nutrient-dense foods can reduce NCD risk while supporting optimal digestive function.

Recent Ayurgenomics research suggests that prakriti types correlate with specific genetic and metabolic profiles, providing a potential scientific basis for constitution-based dietetics. For example, Pitta-predominant individuals show higher expression of genes linked to inflammatory pathways, aligning with the Ayurvedic recommendation to avoid heating foods. Such findings bridge ancient dietary wisdom with modern molecular evidence.

Overall, the diet plan formulated in this study adheres to the Ayurvedic framework while integrating modern dietary principles. This alignment not only respects traditional preventive strategies but also ensures nutritional adequacy and alignment with WHO-recommended health targets, making it applicable in both community nutrition and personalized health care.<sup>10-12</sup>

## CONCLUSION

Unhealthy diets are among the most significant contributors to the global burden of disease, directly linked to four of the world's top ten risk factors for mortality—high blood pressure, elevated blood glucose, obesity, and high cholesterol. The ongoing dietary transition, driven by the mass production of processed foods, rapid urbanization, and changes in lifestyle, has shifted populations away from traditional, nutrient-rich meals toward energy-dense, nutrient-poor foods. This shift not only fuels the rise in noncommunicable diseases (NCDs) but also perpetuates various forms of malnutrition, including undernutrition, micronutrient deficiencies, overweight, and obesity. A healthy diet is central to the prevention of both NCDs and malnutrition. It ensures adequate intake of essential nutrients, supports metabolic balance, and promotes resilience against disease. While modern nutritional science emphasizes population-based dietary guidelines, Ayurveda adds a crucial dimension of personalization through the concept of prakriti—the individual constitution determined by the relative dominance of the three doshas: Vata, Pitta, and Kapha. This constitution-specific approach allows dietary recommendations to be tailored to an individual's physiological and psychological profile, thereby enhancing their effectiveness for disease prevention, health maintenance, and overall well-being.

In Ayurveda, diet is not merely a source of physical nourishment but also a determinant of mental clarity, emotional stability, and spiritual progress. By following prakriti-aligned diet plans in combination with the broader Ayurvedic dietary principles—such as appropriate food selection, seasonal adjustments, mindful eating practices, and avoidance of incompatible food combinations—individuals can maintain dosha balance, optimize digestion (agni), and support long-term health. Such time-tested dietary frameworks are inherently preventive, adaptable to diverse cultural contexts, and increasingly supported by emerging scientific evidence linking constitution types to metabolic and genetic markers. Ultimately, adopting these integrative dietary strategies offers a holistic path to health. By merging modern nutritional guidelines with Ayurveda's personalized approach, individuals can achieve a balanced state of body, mind, and spirit. This alignment not only reduces disease risk but also improves quality of life, enhances happiness, and fosters inner well-being. As dietary choices influence not only physical health but also mental and spiritual vitality, the conscious practice of constitution-specific and principle-based eating represents a sustainable, accessible, and profound means to achieve optimal health and prosperity.

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