

Review Article

Incompatible foods: an important concept to understand to prevent auto-immune disorders

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ABSTRACT

The emerging field of trophology deals primarily with suitable food combinations and also a few unsuitable food combinations. The science is still in its nascent state and a few things have emerged in terms of which foods should, or should not, be eaten together. But the ancient texts of Indian Medicine are replete with such examples. What's interesting is that there is a huge theoretical basis behind the concept of Incompatible foods. The science is rooted in the Ayurvedic concept of six tastes and the physiological basis of homeostasis-the *doshas*, which roughly correspond to the humours as propounded by the Greek philosopher Hippocrates. Inter cultural exchange in modern times of rapid transit has resulted in mixing up of foods and dishes in a haphazard manner, led by gustatory and aesthetic factors rather than immunological ones. This has led to explosion of so-called auto immune and metabolic diseases, because the immunological basis of incompatible food combinations has hardly begun to be researched.

Keywords: Ayurveda, Food combination, Antagonistic food, Harmful foods, *Viruddh-aahar*, Autoimmune diseases, Culinary tradition

INTRODUCTION

The upsurge in the prevalence of auto-immune and metabolic disorders has been a cause for much concern and consternation in the medical community. Especially so since the aetiology of these disorders remains largely unknown and hypothesized. But the ancient Indian medical texts of Ayurveda offer valuable hints into the causation of these conditions, based upon an imbalance of the bodily humours, which form the fundamental tenets of homeostasis. Ayurveda contains an exhaustive compendium of the energetic and qualitative hallmarks of all foodstuffs, the truth of which is now slowly being unraveled by the researches on the pharmacological attributes of ginger and turmeric, to name just two. All food is ultimately molecules, and several food-drug interactions are well known. Tyramine containing foods are contra-indicated along with monoamine oxidase inhibitors, and grapefruit should not be taken while

having statins. It is thus only reasonable to assume that some particular foods may interact with other specific foods, and Ayurveda has listed out several such food combinations with great authority.

The surviving ancient texts of Indian Medicine expound in great detail the myriad variety of food-stuffs available for human consumption. Each and every plant species in the Indian sub-continent has been properly classified and its nutritional and healing qualities documented. While modern science defines food stuffs in terms of food-value i.e., Proteins, carbohydrates, fats, vitamins and minerals, ayurveda describes their bodily actions and physiological effects in great detail. What is more, the culinary traditions of India, as practiced throughout the length and breadth of this hugely diverse country, are rooted in the principles expounded in the ancient texts. These age old culinary traditions of India have come down over the millennia simply by word of mouth. The argumentative,

talkative Indian ethos has resulted in at least one positive fallout—the handing over of the recipes and food combinations, along with the specific methodology of preparations and use of condiments.

And since the traditions and food practices are “evidence based”, they can be considered correct and true. These have come down essentially unchanged over thousands of years, and only over the past few decades have some changes crept in—as has probably happened to cuisines in all parts of the world; as a result of globalization.

Globalization and urbanization have changed food habits in almost all nations, by bringing into common access a very broad range of food-stuffs, and delicacies which were previously not easily available to even the royalty, like ice-creams and crystalline sugar. Rapid international trade and travel has resulted in a mixing of cuisines and styles of food preparation, with the dominant drivers being innovation and taste. At the same time, researches in medical sciences have also influenced dietary habits, most noticeable being the dramatic changes in the cooking mediums, namely the oils and fats used.

Paradoxically, while average life spans have increased over the past hundred years, there has also been an exponential rise in metabolic disorders and auto-immune diseases, the aetiology or cause for most of whom remains unknown. The group of auto-immune disorders presents a special case in European and American societies, since these are increasing in prevalence—to name a few, psoriasis, lupus, rheumatoid arthritis and thyroiditis.

While modern medicine is yet to come to any definite answers regarding causation of such troublesome conditions like psoriasis and inflammatory bowel disorders, the Indian food traditions offer definite clues, embodied in the concept of prohibited food combinations. And the knowledge of these food incompatibilities pervades in our society as inviolable folk conventions, to be breached at your own risk. What is remarkable is that these oral traditions, prevalent even in illiterate social groups, find mention in the classical texts of traditional medicinal systems, some of them over three thousand years old. In fact, the classical texts list the various types of incompatible foods, and the resulting disorders that can arise out of eating such foods together. The science is very specific and systematic, having a detailed theoretical basis.

Types of food incompatibilities

There are eighteen types of food incompatibility described in Ayurvedic texts, but for sake of brevity we shall mention only a few, and describe only one.¹ It will be pertinent to point out here that the time of day for eating or abstaining from certain foods is detailed in relation to the body clock which is explained in great

detail in the ayurvedic texts, based on the preponderance of one or the other humour at different times of the 24 hour clock. To place the importance of the body clock into a proper perspective, the Nobel Prize for medicine in 2017 was awarded for studies on the biological clock, also called the circadian rhythm. The description of the body clock in the millennia-old ayurvedic texts does make one think about the credibility of the principles described therein. And that it may be worthwhile to at least investigate the plausibility of these postulates.

Before I discuss the theoretical principles underpinning the Antagonistic Food concept, let me first define Antagonistic or Incompatible foods. Antagonistic foods are two particularly safe foods, which when eaten together may produce harmful health effects. In other words, incompatible foods are those foods that should not be eaten together in combination but can be eaten separately. These are everyday foods which may be very nutritious and perfectly good for the body, but when eaten together, or within half an hour of each other, cause certain metabolic or immunological effects that may not be good for health. These antagonistic foods are only two types (among eighteen) of incompatible foods described, and are known as *Samyoga Viruddha* and *Veerya Viruddha* in Sanskrit, the language of the scriptures, and these will be detailed later on.²

Some other types of incompatible foods, along with examples, described are:

- Geographically (*desh*) incompatible: Cold and greasy foods in marshy regions, and dry, hot and pungent (like red chillies) in arid zones.
- Chronologically (*kaal*) unfavourable: In terms of seasons and in terms of time of day, eg: yogurt should not be taken at night; in summer heat pungent foods should be avoided, while in winters dry and cold foods should be avoided.
- Physiologically (*dosha*) inappropriate: Food incompatible with the constitution of the individual; very heavy people should avoid oily and fatty foods.
- Contradictory to the disease and treatment: Milk, in an individual having lactogen intolerance.
- Wrong processing or cooking: Heating honey takes away its antigenic component and may make it harmful.
- Wrong sequence: Hot foods after eating pork, cold water after hot coffee

PHILOSOPHICAL UNDERPINNINGS

Five great elements and three humours

To touch very briefly upon the theory underlying the concept of incompatibility, we have to start with the five principles which are involved in creation—space, air, earth, fire and water. These five great elements of nature give rise to six tastes and are employed in the formation

of the three basic imbalances or humours that compose the human body: vata, pitta and kapha.³ (see Figure 1).



Figure 1: Formation of the three humours from the five great elements of nature.⁴

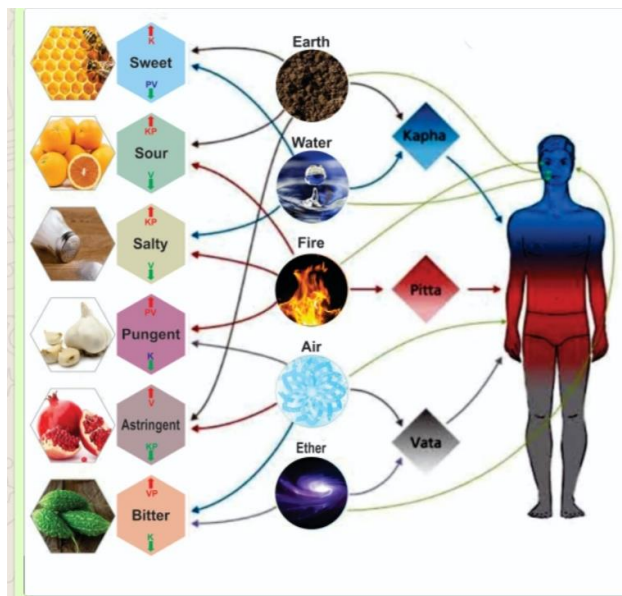


Figure 2: The six tastes are created out of the five elements, with each taste having a preponderance of two elements, just like the humours.⁶

The balance in the proportion of the three humours maintains health, while their variation produces disease. The concept of bodily humours was also the dogma propounded by Hippocrates, the father of western medicine.⁵ Why they are called “imbalances” is because even a slight unevenness in their normal proportions can cause lopsidedness and disease, just like in the three legs of a tripod (see Figure 2).

Importance of taste

Each food type, including flesh of each and every animal and each plant species, has been comprehensively described in Ayurveda, and in general, each food has been ascribed three qualities --- taste, after taste and potency.⁷ There are clear cut effects ascribed to each

taste, e.g., sweet taste is nourishing and increases mental ability and cognition. Sour taste is appetizer and cardiac tonic. Pungent tasting foods are anti-inflammatory and anti-obesity. Bitter taste is anti-pruritic and cholagogue (Table 1).

Similarly, each taste affects the various body tissues like blood, bone marrow, muscles and semen. While sweet, sour and salty tasted supplement the body tissues, pungent, bitter and astringent reduce the body tissues. Even more interestingly, the taste of foods also affects the removal of waste metabolites from the body (Table 2).

The importance of taste also lies in the sequence in which the various dishes should be eaten during a meal. Meals should begin with sweet tasting foods and end with astringent foods.

Tastes also have an effect on the mind and on the emotions, as shown in Table 3.

For a healthy functioning of the body and mind, all the tastes should be consumed in requisite amounts, depending on bodily constitution (with regard to the humours). Taking an excess of any taste can result in harmful effects (Table 4). Now, we see here that excess of sweet taste increases sluggishness and weight. Recent studies on the effects of artificial sweeteners on weight have shown that the predicted effect on weight reduction was not achieved; rather there was no significant difference in weight gain between those who took normal sugar and those that used sweeteners like aspartame and saccharine. Though this sounds counter-intuitive, but it falls in place if we consider the effect of taste on the human body, rather than just count calories. Similarly, Gin and tonic which is bitter, has traditionally been used to cure fevers.

General rules

Coming back to Antagonistic Foods, the two types described in detail herein are Samyoga and Veerya Viruddh. Samyoga means combination of two or more substances; the effects of mixing occur by co-incidence. Veerya stands for heating or metabolic quality—whether metabolism is quickened or slowed down. Let us look at these in more detail. The most important rule is to be careful while mixing foods of animal origin. These are various types of flesh (of land animals and marine species), milk and its products like yogurt, and honey. We have to be cautious while consuming these foods together, which means within half an hour of each other.

The first common rule of contradictory foods enunciated in the texts is eating flesh with milk.⁸ Out of this group also, more specific is eating flesh of marine species (like fish and crustaceans) along with milk. Even in the latter, very specifically, having shrimps with milk is absolutely prohibited; how very specific! The reason why fish and milk are contradictory is because, even though both these

are sweet in taste and in after-taste, their potencies are opposing--- while milk is cooling, fish is heating. The harmful effects of eating the two together range from

food poisoning and inflammatory bowel disease to skin disorders like dermatitis and psoriasis.

Table 1: The evolution, properties and functions of the six tastes.

Taste	Evolution	Properties	Functions
Pungent	Fire+air	Dry, hot and light	Anti- inflammation, anti obesity and anthelmintic
Bitter	Ether+air	Dry, cold and light	Antihelmintic, anti pruritic and thirst depressant
Astringent	Earth+air	Dry, cold and light	Styptic and antidiarrhoeal
Sweet	Earth+water	Moist, cold and heavy	Nutritive, anti- thirst depressant, pacifies vata and pitta
Sour	Earth+fire	Moist , hot and light	Appetizer, cardiac tonic and nervine tonic
Salt	Fire+water	Moist, hot and light	Digestive, mild laxative, vata pacifying and sialagogue

Table 2: Effects of different tastes on body tissues and excretory function.

Taste and dhatus (tissues)	Action on the body
Name of tastes	
Sweet, sour and salt	Supplement the body tissues.
Pungent, bitter and astringent.	Reduces the body tissues
Taste and malas (waste products)	
Sweet, sour and salt	Enhance the removal of waste products.
Pungent, bitter and astringent	Cause retention of waste products.

Table 3: Taste and emotions in balanced condition.

Taste	Emotions
Sweet	Love and attachment
Salty	Greed
Sour	Envy
Pungent	Hatred
Bitter	Sorrow
Astringent	Fear & fright

Table 4: Taste and physical action in balance and excess condition.

Taste	Balance	Excess
Sweet	Nourishing	Obstructing, weight increase
Sour	Refreshing	Loosening
Salty	Softening	Inflaming
Pungent	Flushing	Burning
Bitter	Purifying	Emaciating
Astringent	Healing	Drying

Having flesh with honey, sesame, molasses, milk or germinated grains can cause deafness, blindness, tremors, voice disorders or nasal twang. Partaking of pigeon flesh cooked in mustard oil along with honey and milk can result in bleeding disorders, seizures (epilepsy), goiters and thrombosis of cerebral veins. Having radishes, garlic, basil followed by milk can result in chronic skin disorders like psoriasis, pemphigus or eczemas.

When we talk of milk here, it also includes milk-containing products like ice-cream and white sauce. Many sweets prepared in India contain concentrated milk

and milk powder, and these are also to be avoided wherever the contradiction to milk is stated. One very important contradictory combination is milk and salt. Salty snacks should be avoided with milk shakes, and cream sauces should avoid salt in their preparation e.g., white sauce.

Yogurt is a very popular food that is also very health-promoting. But it should not be consumed along with sour articles like oranges, vinegar, pineapple, and wines. Yogurt is also not compatible with germinated grains and flesh of chicken and spotted deer. Also, yogurt should never be heated, and dishes that employ yogurt in cooking should be avoided.

Fish and pork cooked in mustard oil is incompatible. It should be noted that while this is mentioned in the text, in the same text it is also stated at the end of the chapter that the examples given are not exhaustive; but rather should be considered as beacons and extrapolated in current context. Now, mustard oil is derived from Brassica seed, similar to Rapeseed and Canola, which are popular cooking oils. All these seeds of Genera Brassica contain significant amounts of erucic acids. So the incompatibility, by inference, also extends to cooking fish and pork in rapeseed and canola oil.

There are other combinations that can cause death. Stating that a certain food combination can cause death is a very drastic statement and can be easily verified in animal experiments. The reason why such combinations are given , even though these foods are seldom eaten, is because the flesh of each bird and animal has been assigned specific medicinal properties. For example, peacock flesh improves hearing, vision, complexion, intelligence and promotes long life. But eating peafowl

flesh cooked in castor oil will cause death. Similarly, flesh of crane and egrets cooked in pig lard can prove lethal.

Examples from everyday popular foods

Let us discuss some examples of some dishes and antagonistic food ingredients from everyday life: The French are very fond of snacking on baby radishes dipped in fresh butter and salt. Now, radish and butter are antagonistic and can give rise to skin disorders like psoriasis.⁹ Radishes are also antagonistic to milk. So using this snack along with milk coffee is also problematic. Yogurts are also popular breakfast food, and so is coffee; yogurt followed with hot coffee is also a bad idea.

The white sauce, so popular in Europe, has in its recipe cream, milk and salt. Milk is absolutely contraindicated with salt, so this preparation is unhealthy. What makes it even healthier, is its use with meat balls, pork and flesh of different types. This is because milk with flesh is incompatible, and so is milk with salt—there's a double incompatibility here. Milk and salt are also used in the recipes of Danish pastry and Croque-Monsieur sandwich, but since several other ingredients are also used, the antagonism is mitigated.

A new trend is emerging in Japan where ice-creams are being topped with shrimps and prawns in order to serve Omega 3 fatty acids which are good for brain and heart. While the latter is true, yet the combination of dairy milk-containing ice creams with crustaceans is antagonistic and should not be indulged. It can be noticed that this is not a traditional food, rather an innovation. It is important while using newer food combinations to keep the principles of food incompatibility in mind, lest we create unnecessary dishes that harm our health and well-being.

CONCLUSION

There is an immense variety of food stuffs available in markets and stores today. All foods provide nutrition and are therefore good for us in proper amounts. But random mixing and processing of raw food and ingredients while cooking or partaking may produce certain side effects, some of them due to chemical reactions, others due to changes in intestinal permeability and metabolic

conversion in the liver, and still others due to more subtle actions on the gut microbiome or on the immune system. Medical advances are only now beginning to unravel immune mechanisms of antigen presentation and especially of lipid antigens. Processing of proteins with lipids while cooking can result in lipidated proteins, the antigenic potential and tolerance to which are as yet unknown. Only systematic scientific investigations can elucidate these mechanisms and perhaps uncloak the mystery behind the causation of auto-immune and metabolic disorders.

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