

## Socionutrition: The science of socionutrients

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### Abstract

Nutrients are substances used by an organism to survive, grow and reproduce. "Social used in relation to" companionship and society. In this opinion piece, we propose and propound a novel concept, Socionutrition, and discuss the science of socionutrients, socionutrient triggers and modifiers, as well as socionutrient abuse. We discuss these parameters in relation to health and explore their relevance to disease prevention and management.

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### Definitions

Socionutrition, a portmanteau of social and nutrition, refers to the multifaceted, multifactorial and multidimensional links between social behaviour, social hygiene and social connections on one hand, and nutrition, dietetics and culinary science on the other.

These links are mediated by what we term socionutrients, defining them as the social attitudes, emotions, behaviours and practices that influence the consumption of food. Just as nutrients are necessary in order to survive, grow and reproduce, so are these social attitudes, emotions, behaviours and practices. And just as nutrients can be classified as mega-, macro-, and micro-nutrients,<sup>1,2</sup> socionutrients can operate at various levels. We term these macro-, meso- and micro-levels, to maintain concordance with accepted terminology in public health.

### Ground reality

A significant proportion of a typical human being's waking day is spent in planning, praying for, procuring, preparing, plating or presenting, preserving, and

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'palating' or eating meals.<sup>3</sup> The thoughts, conversations and actions that accompany these processes are the building blocks of socionutrition, or socionutrients. At a much 'simpler' plane, food shared with affection, love and caring has a different impact from that which is shared without emotions. These emotions, too, can be termed as socionutrients. Culinary happiness is an exemplar of such nutrition.<sup>4</sup>

If kept in balance, these socionutrients promote comprehensive emotional and social well being and facilitate physical health as well. Unhealthy social pressures, however, may lead to ill-health. These include marketing of calorie-dense, nutrient-poor foodstuffs, and relative difficulty in accessing affordable nutritious meal options in many parts of the world.<sup>5</sup> At the same time, there are best practices which utilize the power of socionutrition in a positive manner. Food labelling, sin taxes on sugary drinks, danger labels on tobacco products, and restriction of sale of unhealthy foods and beverages near schools are examples of such practices.<sup>6</sup>

### Levels of socionutrition

Table 1 summarizes the various levels of socionutrition in a concise manner. Socionutrition plays an important role at all steps of nutrient consumption. Food/Meal planning, procurement, preparation, presentation, prayers, partaking (eating) and portioning: all these are connected with specific aspects of social nutrition. These aspects operate at the micro level (individual, family), meso level (community) and macro level (national, multinational). Though this list is not exhaustive, the classification system allows a scientific study of various socionutrients that are present in our midst. It also helps us optimize the socionutritional characteristics of our food, so that we can move towards better health.

### Socionutrients

Socionutrients have an important role to play in health and well-being. As is clear from the name, the need and relevance of various socio-nutrients will have been created by, and will also depend upon, social factors. Table 2 lists the various socionutrients as human, animal, e-and spiritual nutrients. This rubric offers a scaffold upon which future researchers can build comprehensive bodies of knowledge. This classification is meant to highlight the vast spectrum of these nutrients, i.e., social factors which

**Table-1:** Aspects Of Social Nutrition

Nutrition process	Micro-level	Meso-level	Macro-level
Food planning	Family discussions on menu	Community taboos,	Religious rules and regulations
Food procurement	From friendly vendors/producers, with friendly banter	Collective farming	Local sourcing of food at global level
Food preparation	Done as a family/team; specific needs, e.g., halal preparation	Preparing community meals e.g., langar in temples/gurudwaras	Use of digital therapeutics (digital dietetics) apps to learn recipes
Food presentation	Done as a family/team	Serving food at community meals by volunteers	Posting of pictures of food on e-apps
Food prayers	Family rituals of praying before meals; serving food to God prior to eating	Religious rituals at community levels	Major events shared by multinational communities, e.g.; Iftar prayers during Ramadan
Food partaking	Mindful eating; Family conversation leading to slower eating, more satiety	Eating together as a community at religious/cultural occasions	Following similar rituals across communities, e.g.; Vegan Day, No-meat Day
Food portioning	Keeping a portion of food for stray/pet animals	Food donation to underserved persons	Food donation to underserved communities

**Table-2:** Socionutrients**Human nutrients**

- Family, friends, colleagues with whom food preparation is done, and food is shared

**Animal nutrients**

- Pets, other animals with whom a part of food is shared, or kept aside for e- nutrients
- Digital therapeutics/ digital dietetics apps/ social platforms with which food-related ideas are shared

**Spiritual nutrients**

- Prayer as apart of meals, concept of prasadam/ communion, mindful eating.

influence nutrition, and are necessary for health.

Health care providers must take socionutrition in to account while prescribing dietary advice and sharing tips on culinary medicine. The right socionutrient ingredients must be added to make an appropriate, balanced and complete diet. Social preferences and requirements will be highly person-centric, and the health care provider should be astute enough to understand the individual's likes and needs.<sup>7</sup> While almost all persons will benefit

from positive human emotions, some may prefer socionutrition through e- connections or animal companionship.

**Socionutrition and phases of life**

Nutrition and its social determinants vary across phases of life. Children, adolescents, young adults, antenatal women and the elderly: all have unique needs and preferences. These should be taken into account while assessing nutritional status and planning dietary interventions. Social, psychological and financial parameters should be taken into account while prescribing person centric nutritional therapy to persons of various age groups.

**Socionutrient triggers**

Hunger has been classified as homeostatic and hedonistic.<sup>8</sup> Socionutrient triggers are those which stimulate appetite even in the absence of homeostatic hunger. Visual, auditory and olfactory cues, generated by exposure to the sight, sound and smell of food, can create a feeling of hunger. Watching advertisements, listening to conversations, and inhaling aroma of food are examples of socio-nutrient triggers. Peer pressure, or pressure from family, e.g., 'have one more portion' 'In my time I used to eat five helpings of rice' and 'one dessert won't hurt your diabetes' is commonly encountered. This, too, is an important socionutrient trigger.

Socionutrient modulators may reduce appetite, too. Negative feedback about a particular food, association with guilt or with religious taboos, or obnoxious odour or visual display can modify hunger.

**Disorders related to socionutrition**

Dysfunctional socio-nutrition is associated with the burgeoning metabolic epidemics of obesity, diabetes, and heart disease. While these syndromes do have varied etiopathogenetic factors, there is no doubt that 'overnutrition' has contributed to their prevalence.<sup>9</sup> This overnutrition is due not only to the increased availability suboptimal processing and preparation of these foodstuffs; but also due to inappropriate social attitudes, behaviours and practices.

At another level, micro-nutrient insufficiency, or hidden hunger,<sup>10</sup> continues to affect a significant proportion of the world's population. This, too, is partly due to social factors such as a preference for restricted diets.

Other eating disorders like anorexia nervosa, bulimia nervosa and orthorexia nervosa<sup>11,12</sup> can be linked with social precipitating factors, and with lack of adequate socionutrition.

### Socionutrient use and abuse

Appetizers, which are used in many cuisines, also represent the use of nutrients for social purposes. Chewing kolanut (West Africa), sharing salt (American Indian tribes), breaking bread (Slavic cultures) and offering nutmeg (South Asia) are examples of such social use of nutrition, or socionutrition.

Another aspect of socionutrition is the abuse of nutrients for social purposes. This includes the use of alcohol, khat and betelnut for social purposes. The phrase 'social drinking', suggests that substance abuse may be considered a part of socionutrition.

### Socionutrient therapy

The concept of socionutrition can easily be exapted for therapeutic purposes. Non-nutritional therapy can be incorporated into enhance the acceptance of and promote adherence to, such advice. Table 3 lists some examples of such therapy.

**Table-3:** Socionutrient therapy

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**Planning:** add a religious or self-disciplinary angle to reduce thoughts of unhealthy food intake

**Procurement:** procure less food at a time; make an extra effort to integrate physical activity, such as walking, with buying of food

**Preparation:** consider preparing food yourself, or as part of a family activity

**Partaking:** make meals a family affair; practice mindful eating; take pauses between various course

**Post meal:** plan a post-meal walk to share food with astray animal, or as a social activity.

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Socionutrient therapy, includes raising awareness about the socio-nutrient triggers that one is exposed to, and learning how to cope with them. Coping with such triggers may involve Avoidance (keep away from friends who insist on substance abuse), Education (explaining to loved ones how their words and actions harm you), Internal strengthening (making oneself resilient, practicing 'social resistance'), Offering alternatives (creating low calorie substitutes for unhealthy practices, e.g., replacing beer with buttermilk, high calorie desserts with whole fruits), and Upgrading one's understanding of socio nutrition, on an ongoing basis. These coping skills are listed as the AEIOU coping style (Table 4)

**Table-4:** AEIOU style of coping with socionutrient triggers

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- Avoid such triggers
  - Educate close ones about potential harm of triggers
  - Internally strengthen yourself
  - Offer Low-calorie, healthy alternatives for unhealthy practices
  - Upgrade your understanding, on an ongoing basis
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### Socionutrition as a tool for health promotion

Socionutrition can be viewed as a tool for health promotion and disease prevention as well. The concept can be included in classic nutrition science to spread awareness about health eating. This movement can be used for primordial as well as primary prevention of metabolic diseases, which have a strong nutri-therapeutic framework. These include diabetes, obesity and dyslipidaemia. Using socio-nutritional constructs,<sup>13,14</sup> such as the Mediterranean diet, traditional Indian Ocean diet (TRIO), mindful eating, or spiritually enhanced eating and dining (SPEED), help enhance understanding and acceptance of a balanced and healthy diet.

### Society as a unit of intervention

The strength of socionutrition is that it views society as a unified construct. This allows one to plan nutritional and other health-related interventions, keeping the society in mind. As a 'social' construct, it builds connections easily, and promotes healthier nutrition for all.

Focusing on the entire society will reduce the risk of 'labelling', shaming and ostracizing persons who live with specific medical conditions that need dietary restrictions. Socionutrition is a good antidote to culinary cruelty and dietary draconism<sup>4</sup> that are so often experienced by person living with diabetes and obesity. Integrating social health into current nutritional praxis, and socionutrients in daily lifestyle advice, will enhance acceptance of modern medical care as well.

Public awareness campaigns have proven to be effective in tackling malnutrition. Iodine deficiency and anaemia, are being addressed through community-oriented, community-based interventions. Protein energy malnutrition is being tackled in school children through mid-day meal programmes. A similar approach can be used for the primordial, as well as primary prevention of lifestyle and metabolic disorders. A call for healthy eating, explaining what this is, why it is important, and how it can be implemented in a cost-effective manner, is required. This must be made by political, religious and community leaders, social celebrities and influencers, with health care professionals taking the lead.

### Summary

Socionutrition may be criticized for not being evidence-backed. This, however, is untrue. Socionutrition has been discussed under different labels in the past. These include social nutrition, culinary happiness, and happy meals Food is a highly human-dependent science, and integrating social aspects into existing discourse on nutrition and health will strengthen rather than

weakening it. Socionutrition does not seek to negate the value of conventional dietetics; rather, it seeks to supplement the efficacy of nutritional therapy.

This communication should set the foundation for further dialogue and discussion on nutrition and health. Experts from all fields, including sociology and nutrition, should join the debate. Along with members of the public. The aim is to improve our dietary habits, and thereby, improve health.

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