ISSN: 2754-4907

Journal of Drugs Addiction & Therapeutics

SCIENTIFIC Research and Community

Research Article

Open Access

Foods with a Double Role in Nutrition and Health

Major Gheorghe Giurgiu[1]* and Manole Cojocaru[2,3]

[1]Deniplant-Aide Sante Medical Center, Biomedicine, Bucharest, Romania

[2]Member of Academy of Romanian Scientists, Scientific Researcher degree I, Romania

[3]Titu Maiorescu University, Faculty of Medicine, Bucharest, Romania, Professor of Allergology and Clinical Immunology, European Specialist of Laboratory Medicine, Senior Specialist of Allergology and Clinical Immunology, Romania

ABSTRACT

Background: Nutrients are the substances found in food which drive biological activity, and are essential for the human body. Dietary nutrients may be converted into metabolites by intestinal microbes that serve as biologically active molecules affecting regulatory functions in the host.

Objectives: To demonstrate role of nutraceuticals and functional foods in the management of psoriasis, in neuropathic pain in dog with spinal cord injury, and stroke

Materials and Methods: This includes the role of macronutrients, micronutrients, and the gut microbiome in mediating inflammation. Nutraceutical modulation of the inflammation has applications within the clinical setting, but can also have a role in healthy populations, acting to reduce of inflammation. Ongoing research in this field will ultimately lead to a better understanding of the role of nutraceuticals and functional foods in inflammation.

Results: Probiotics may restore the composition of the gut microbiome and introduce beneficial functions to gut microbial communities, resulting in amelioration of gut inflammation and other intestinal or systemic disease phenotypes. A well-functioning immune system is critical for survival. The immune system must be constantly alert, monitoring for signs of invasion or danger. Cells of the immune system must be able to distinguish self from non-self and furthermore discriminate between non-self molecules which are harmful (e.g., those from pathogens) and innocuous non-self molecules (e.g., from food).

Conclusion: This presentation describes how nutraceuticals and intestinal luminal conversion by gut microbes play a role in psoriasis, in neuropathic pain in dog with spinal cord injury, and stroke.

***Corresponding author**
Major Gheorghe GIURGIU, Deniplant-Aide Sante Medical Center, Biomedicine, Bucharest, Romania.

Received: June 02, 2025; **Accepted:** June 05, 2025; **Published:** June 20, 2025

Keywords: Nutraceuticals, Functional Foods, Gut Microbiota, Immunomodulation, Inflammation, Psoriasis, Neuropathic Pain in Dog with Spinal Cord Injury, Stroke

Background

Nutraceuticals and functional foods are largely used to provide medical or health benefits, but there is an urge to determine which products have adequate clinical evidence and a strong safety profile. Nutraceuticals are foods or part of foods that provide medical or health benefits, including the prevention and/or treatment of a disease [1]. Functional foods have numerous definitions: they can be defined as processed foods having disease-preventing and/or health-promoting benefits in addition to their nutritive value, but another accepted definition is that they are foods that contain substances, in addition to nutrients, that may have potentially positive effects on health, beyond basic nutrition. These terms often overlap with medical foods, probiotics, designer foods, pharmafoods, and dietary supplements, etc [2].

In light of this evidence, the aim of this study is to explore the scientific and clinical evidence of the positive role of nutraceuticals and functional food in bone health, focusing both on molecular mechanisms and on real-world studies, with the aim of providing a complete list of nutraceuticals and functional foods with adequate clinical evidence usable by everyone to improve bone health and skin [3].

The immune system protects the host against infection from pathological microorganisms and provides constant surveillance for malignant cells that arise over a lifetime. The immune system is able to develop appropriate tolerance to self-proteins, circulating macromolecules, self-cells, and tissues, and to harmless environmental molecules [4].

Nutrients are the substances found in food which drive biological activity, and are essential for the human body. Nutraceuticals may be converted into metabolites by intestinal microbes that serve as biologically active molecules affecting regulatory functions in the host [5].

Individual heterogeneity regarding the intensity of immunological responses exists, largely dependent on genetics, environment,

lifestyle, nutrition, and the interaction of these factors. Nutritional immunology is a field of immunology that describes the influence of nutraceuticals on the immune system, antiviral activity, and associated protective functions.

Moreover, crosstalk between commensals and the immune system is now recognized because microorganisms can modulate both innate and adaptive immune responses. The microbiome is vital for immune system development and homeostasis. Gut microbiome and its metabolites might manipulate the local immune responses as well as those of the systemic immune system [6].

Metabolites produced by pathogenic microbes that cross the intestinal barrier trigger pathological conditions, while metabolites produced by saprophytic microbes cross the intestinal barrier and favorable the body.

The immune system plays a vital role in keeping the body healthy by providing a fine balance between the elimination of invading pathogens and the maintenance of tolerance to healthy self-tissue. It is now evident that the gut microbiota has a profound effect on the host immune system and can induce psoriasis [7]. The interactions between the gut microbiota and skin are complex, dynamic and context-dependent [8]. The gut microbiota and its metabolites have been shown to influence and immune homeostasis both locally and systemically. Antibiotic treatments, vaccinations and hygiene practices all can alter gut microbiota composition [9].

Objectives

The aim of this study is to explore the scientific and clinical evidence of the positive role of nutraceuticals and functional food in skin, and bone health, focusing both on molecular mechanisms and on real-world studies. The objectives were to demonstrate role of nutraceuticals and functional foods in the management of psoriasis, neuropathic pain in dog with spinal cord injury, to demonstrate role of Imuniplant in the management of inflammation in psoriasis and neuropathic pain. The direct modulation of gut microbiome that could diminish inflammatory responses and ameliorate adaptive immune responses.

Materials and methods

This includes the role of macronutrients, micronutrients, and the gut microbiome in mediating immunological effects. Nutritional modulation of the immune system has applications within the clinical setting, but can also have a role in healthy populations, acting to reduce or delay the onset of inflammation. Ongoing research in this field will ultimately lead to a better understanding of the role of nutraceuticals in inflammation. Deficiency in macronutrients and/or micronutrients causes impairment of immune function, which usually can be reversed by nutrient repletion.

Figure 1: Imuniplant Tea is a Natural Immunomodulator of the Human Microbiome

Imuniplant tea for psoriasis and neuropathic pain in dog with spinal cord injury, it is natural immunomodulator of the human microbiome. Imuniplant tea is a natural genetic immunomodulator of the human and animal microbiome that contributes to the removal of microbiota dysbiosis, can be prevented and removed inflammation. Imuniplant tea contains: cultivated medicinal plants=35%; plant from the spontaneous flora=25%; buds of fruit trees=15%; flowers of fruit trees=15%; berries=10%

Properties: natural genetic immunomodulator, it regulates cellular metabolism, it regulates the central nervous system; it modulates the activity of important neurotransmitters, physically and mentally energizing, remineralizing, it increases resistance to fatigue, natural modulator of the intestinal microbiome. Indicated in: inflammation, autoimmune diseases, metabolic disorders, diseases of the internal organs (liver, kidneys, lungs, hyperacidity), metabolic acidosis, metabolic syndrome, microbiota dysbiosis.

Form of presentation: dry and ground powder packed in tea bags of 1 gram each. 30 envelopes/pack.

Administration: 740 ml of tea that is drunk daily

Duration of treatment: in relation to the evolution of the disease (2-6 months)

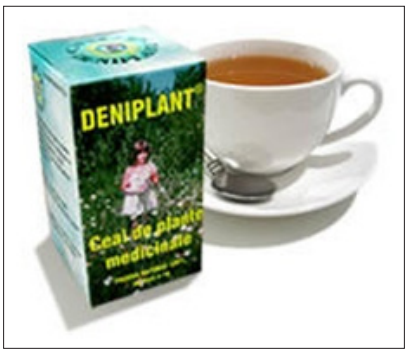
Contraindications there are not.

Side effects: they did not appear after long-term use.

Terms of validity: 2 years from the date on the prospectus; it is kept in the dark and at a constant temperature

Other specifications: it can be used in parallel with the allopathic medication established by the attending physician [10].

With the help of Deniplant brand, Gheorghe Giurgiu has developed several nutraceuticals for psoriasis that act as immunomodulators of the human microbiome. Hence, it is crucial to understand nutraceuticals impact on the psoriatic skin microbiota which is thought to be perturbed, our study provides insight into the skin microbiota in psoriasis and how it is modulated by nutraceuticals and diet.



Patient with Psoriasis before Treatment after Treatment

Because Deniplant treatment addresses the internal causes that trigger and maintain the disease, without ointments or other medications, its duration depends on how quickly the body resolves dysbiosis of the intestinal microbiome, and can be between 4-6 months. If the disease is older, the treatment can exceed 12 months.

After all the lesions healed, there were patients who never had psoriasis again, but there were also patients whose disease reappeared after 10-15 years. Unfortunately, the direct link between the skin microbiota and the pathogenesis of psoriasis remains to be clearly established. The treatment of psoriasis, similar to other immune-mediated complex diseases, is limited to improving the symptoms, due to the lack of effective therapy [11].

Gheorghe Giurgiu created the product Polenoplasmin under the license of the Deniplant brand owner Gheorghe Giurgiu. Polenoplasmin acts as a modulator of the gut microbiome in animals. After he healed his dog that was paralyzed with the hind legs, he watched over 50 cases of paralyzed dogs, and the healing rate was over 80%. Negative results were recorded in paralyzed dogs for a long time (4-6) months.

These studies indicate that gut microbiota modulate inflammatory response. Polenoplasmin for paralysis in dog. Polenoplasmin is a nutraceutical (food with a dual role of nutrition and health) for nerve regeneration of the neuromotor plaque.

Polenoplasmin for veterinary use being a food, it is not medically certified, but its components have scientifically proven healing qualities. It contains freeze-dried pollen from Deniplant plants, carob seed powder , brewer's yeast.

An interesting case of a puppy from Cyprus, who was hit by a car was broken in his spine and was paralyzed with his back legs. https://www.deniplant.ro/polenoplasmin_catel.htm

For 4 months the puppy was treated with Polenoplasmin, in addition to the physical recovery treatments and the dog was able to walk again. The puppy lives and walks alone and today as can be seen in the following video: https://youtu.be/OcQ2NXgZnXs, after 6 years the puppy is healthy and can run freely. https://youtu.be/lwzywDfKsnI; https://youtu.be/Z7fcuVWesMc [12-14].

Neuropolen is a nutraceutical (food with a dual role of nutrition and health) for the regeneration of destroyed nerve cells. The use of the components of Neuropolen in the solution of human medical conditions was made long before the appearance of the product under this name. Neuropolen is a natural neuroregenerator of the nerve cell. Neuropolen contains freeze-dried pollen from Deniplant plants, cocoa bean and carob seed powder, brewer's yeast. Combining them we managed to obtain a product with a wide spectrum of action without side effects or side effects. The components themselves are foods that we can eat daily. That's why Neuropolen has the slogan "Eat and heal" [15].

Results

Nutraceuticals and functional foods are largely used to provide medical or health benefits. This review reports the scientific and clinical evidence for the positive role of nutraceuticals and functional food in bone health and gut microbiota, focusing both on in vitro molecular mechanisms, and in vivo animal studies and trials, in order to provide the beneficial effects of some nutraceuticals and functional foods with adequate clinical and experimental evidence useful to improve bone health in real life. All the described nutraceuticals and functional foods modulated bone cell activity by decreasing osteoclast differentiation and increasing osteoblastogenesis, mainly affecting the oxidative stress and apoptotic signals. The beneficial effects are also evident in human studies. Bone health is the result of a tightly regulated balance between bone modeling and bone remodeling, and alterations of these processes have been observed in several diseases both in adult, pediatric populations, and animals.

Imuniplant modulation of the immune system has applications within the clinical setting, but can also have a role in the aging population, acting to reduce or delay the onset of chronic inflammation. Ongoing research in this field will ultimately lead to a better understanding of the role of nutraceuticals and Imuniplant in chronic inflammation. A dysfunctional immune system can cause a whole range of pro-inflammatory conditions like impaired gut function, weakened responses to new infection.

Imuniplant may restore the composition of the gut microbiome and introduce beneficial functions to gut microbial communities, resulting in amelioration or prevention of gut inflammation and other systemic diseases, like psoriasis.

Evidence for dysbiosis as a source of disease pathology is well-documented in inflammatory skin conditions, such as psoriasis. An increasing body of literature suggests a crucial role for the gut microbiome in modulating systemic inflammatory disease.

Psoriasis is a chronic systemic inflammatory disease and its pathogenesis is related to the interaction between genetic susceptibility, immune response and environmental triggers, such as diet, stress-level, skin-care routine, etc.

Nutrition plays an important role in the development of psoriasis and it can modulate microbiota and microbiome composition. Correct food choices may have a crucial role in the pathogenesis of psoriasis. Life-style and dietary habits might be related to the incidence and severity of psoriasis.

The treatment of psoriatic patients requires multidisciplinary treatment approach not only at improving skin symptoms, but also at managing metabolic, nutritional, socio-psychological comorbidities that often are associated with this disease.

The gut-skin axis is the novel concept of the interaction between skin diseases and microbiome through inflammatory mediators, metabolites and the intestinal barrier. The dysregulated skin microbiota may become a novel therapeutic target in psoriatic patients.

Psoriasis is a common skin disease, with chronic inflammation and a complex etiology.
The association between the gut and skin is strong and bidirectional, and gastrointestinal health is associated with skin homeostasis. Increasing evidence shows the existence of the gut-skin axis, and that an imbalanced gut microbiome can induce inflammatory skin diseases. The gut microbiome can mediate crosstalk between the immune system and the nervous system by secreting neurotransmitters in psoriasis.

The ”skin-gut axis” concept provides a new insight to investigate the association between the intestinal microbiota and the skin. This offers a feasible approach for improving skin conditions, by the modulation of the gut microbiota. Several types of neurotransmitters secreted by gut microbes were selected to investigate their potential function in psoriasis. Microbiome-mediated interventions could be designed to manipulate these targets for the treatment of psoriasis.

Furthermore, studies also found that an important connection between emotional states and inflammatory skin conditions can be regulated by bacteria of the gastrointestinal tract. Through an extensive review of the literature, we aim to discuss the skin and gut microbiota and redefine their role in the pathogenesis of psoriasis.

Deniplant tea prevents and treats the internal causes that trigger and maintain psoriasis by naturally modulating the intestinal and skin microbiome. Removing dysbiosis from the intestinal microbiota can prevent and eliminate complications caused by psoriasis. It contains cultivated medicinal plants, berries and flora, fruit tree buds. With the understanding that the brain-gut-skin axis exists, it is now clear that intestinal microbes have significant effects on psoriasis.

These results are supported by clinical observations based on a case series showing improvement in psoriatic skin lesions after antibiotic treatment, modulation of gut microbiota by probiotics or fecal microbial transplantation.

We confirmed the association of psoriasis and gut microbiota dysbiosis. This study provides a detailed and comprehensive systematic review regarding gut microbiome in patients with psoriasis. It is still not clear whether psoriasis is an effect or a cause of the observed disbalance between beneficial and pathogenic microbes [11].

The results of this study would be of interest since to our knowledge, microbiome-associated studies targeting spinal cord injury dogs are non-existent and the results might help explain possible implications of gut microbiome in spinal cord injury. We found that gut microbes that metabolize tryptophan - an essential amino acid - secrete small molecules called indoles, which stimulate the development of new brain cells. We demonstrated that the indole-mediated signals elicit key regulatory factors known to be important for the formation of new adult neurons in the hippocampus. This finding is exciting because it provides a mechanistic explanation of how gut-brain communication is translated into brain cell renewal, through gut microbe produced molecules stimulating the formation of new nerve cells [12].

Much less is known about the potential relationship between the composition of gut microbiome and the severity of psoriasis. These results are supported by clinical observations based on a case series showing improvement in psoriatic skin lesions after modulation of gut microbiota by Deniplant nutraceuticals. Food choices can affect microbiome composition and improve the severity grade of psoriatic disease. There is a strong link between stroke and chronic inflammation. Due to the important link between diet and the gut microbiota, as well as diet and stroke recovery, the gut microbiota may be a potential therapeutic target to safeguard brain function after stroke injury.

The gut microbiota has been demonstrated to influence various brain functions along the “gut-brain axis”. When blood flow to the brain is stopped or reduced during a stroke, some brain cells die because they stop getting the oxygen and nutrients they need.

Due to its composition rich in antioxidants, anti-inflammatory agents, amino acids, minerals and natural vitamins, neuroregenerative molecules, the product Neuropolen offers various possibilities to balance the processes that take place in the nerve cell. Being a food, it is not medically certified, but its components have scientifically proven healing qualities.

The gut microbiota is closely associated with the pathophysiology and prognosis of stroke. Ischemic stroke alters the gut microbiota composition, but conversely, the gut microbiota can also increase the risk of a stroke occurring and play a role in stroke pathogenesis.

Stroke is the most common cause of adult disability. Stroke may begin in the gut, and is closely related to the imbalance of gut microbiota. Modification of the gut microbiota composition by nutraceuticals may create new preventive and therapeutic options in stroke. Existing evidence suggests that nutraceuticals and lifestyle changes may reduce disability and save lives. This study is another intriguing piece of the puzzle highlighting the importance of lifestyle factors and diet.

An immune response is a reaction which occurs within an organism for the purpose of defending against foreign invaders.

There are two distinct aspects of the immune response, the innate and the adaptive, which work together to protect against pathogens. Alterations in the gut microbiome affect the immune system

balance via the production of metabolites. Microbes coexist with humans and play an important role in regulating health and disease. Immune dysregulation is any proposed or confirmed breakdown or maladaptive change in molecular control of immune system processes [12].

Memory T and memory B cells are also produced in the case that the same pathogen enters the organism again. The innate immune response is an organism's first response to foreign invaders. The innate immune system consists of physical barriers such as skin and mucous membranes, various cell types like neutrophils, macrophages, and monocytes, and soluble factors including cytokines and complement. For example, dysregulation is a component in the pathogenesis of psoriasis. The microbiome is vital for immune system development and homeostasis. Immune deficiencies may be temporary or permanent [13].

Temporary immune deficiency can be caused by a variety of sources that weaken the immune system. Pregnancy also suppresses the maternal immune system, increasing susceptibility to infections by common microbes. Probiotics may restore the composition of the gut microbiome and introduce beneficial functions to gut microbial communities, resulting in amelioration or prevention of gut inflammation and other intestinal or systemic disease phenotypes [14].

A well-functioning immune system is critical for survival. The immune system must be constantly alert, monitoring for signs of invasion or danger. Cells of the immune system must be able to distinguish self from non-self and furthermore discriminate between non-self molecules which are harmful (e.g., those from pathogens) and innocuous non-self molecules (e.g., from food) [15].

Conclusion

This presentation describes how nutraceuticals, and functional foods, and intestinal luminal conversion by gut microbes play a role in chronic inflammation. The gut microbiota is considered to be a master regulator of inflammatory homeostasis. Besides modifying the gut microbiota, Imuniplant modulates the immune system in psoriasis, neuropathic pain in dog with spinal cord injury. Probiotics have been widely reported to act on the inflammation. They are living microorganisms with immunomodulatory effects that stimulate Th1 cytokines and suppress the Th2 response, which are being researched for the treatment of several inflammatory diseases. Probiotics most commonly used are part of the intestinal microbiota like lactobacilli, bifidobacteria, and enterococci.

References

1. Chaplin DD (2010) Overview of the Immune Response. J Allergy Clin Immunol 125: S3-S23.
2. Childs CE, Calder PC, Miles EA (2019) Diet and Immune Function. Nutrients 11.
3. Molendijk I, van der Marel S, Maljaars PW (2019) Towards a Food Pharmacy: Immunologic Modulation through Diet. Nutrients 11: 1239.
4. Caballero S, Pamer EG (2015) Microbiota-mediated inflammation and antimicrobial defense in the intestine. Annual review of immunology 33: 227-256.
5. Li XV, Leonardi I, Iliev ID (2019) Gut mycobiota in immunity and inflammatory disease. Immunity 50: 1365-1379.
6. Ingels C, Vanhorebeek I, Van den Berghe G (2018) Glucose homeostasis, nutrition and infections during critical illness. Clin Microbiol Infect 24: 10-15.
7. Morrison DJ, Preston T (2016) Formation of short chain fatty acids by the gut microbiota and their impact on human metabolism. Gut Microbe 7: 189-200.
8. Hooper LV, Littman DR, Macpherson AJ (2012) Interactions between the microbiota and the immune system. Sci 336: 1268-1273.
9. Gh Giurgiu, Cojocaru M (2023) The double role of nutrients in immunity. Cukurova 10th International Scientific Researches Conference. Adana, Turkey 2-4.
10. Gh Giurgiu, Cojocaru M (2023) The double role of nutrients in immunity. Academy of Romanian Scientists Annals Series on Biological Sciences 12: 118-122.
11. Gh Giurgiu, Cojocaru M (2025) Which psoriasis treatment work best? 3rd International Congress of Scientific Compilation Studies. Ankara, Turkey.
12. Faienza MF, Giardinelli S, Annicchiarico A (2024) Nutraceuticals and Functional Foods: A Comprehensive Review of Their Role in Bone Health. Int J Mol Sci 25: 5873.
13. Karpouzos A, Diamantis E, Farmaki P (2017) Nutritional Aspects of Bone Health and Fracture Healing. J. Osteoporos 2017: 4218472.
14. Gh Giurgiu, Cojocaru M (2025) Microbiota modulation as therapeutic approach in the neuropathic pain in dog with spinal cord injury: impact of Polenoplasmin. 14. International Gevher Nesibe Medical Sciences Conference March 1-2, Ankara, Turkey.
15. Gh Giurgiu, Cojocaru M (2025) Dysregulation of the dopamine system in stroke: impact of Neuropolen. 9th International Marmara Scientific Research and Innovation Congress February 2-3, Istanbul, Turkey.