ALIVIT pharm

PHYTOTHERAPY FOR GASTROINTESTINAL AND LIVER HEALTH

SCIENTIFIC FOUNDATIONS OF HERBAL SUPPLEMENTS FOR DIGESTIVE AND LIVER HEALTH

THE IMPACT OF HERBAL EXTRACTS ON MICROBIOTA BALANCE AND HEPATIC INFLAMMATION

botanical treasures offer a wide range of bioactive compounds that contribute to health and wellness.

2025

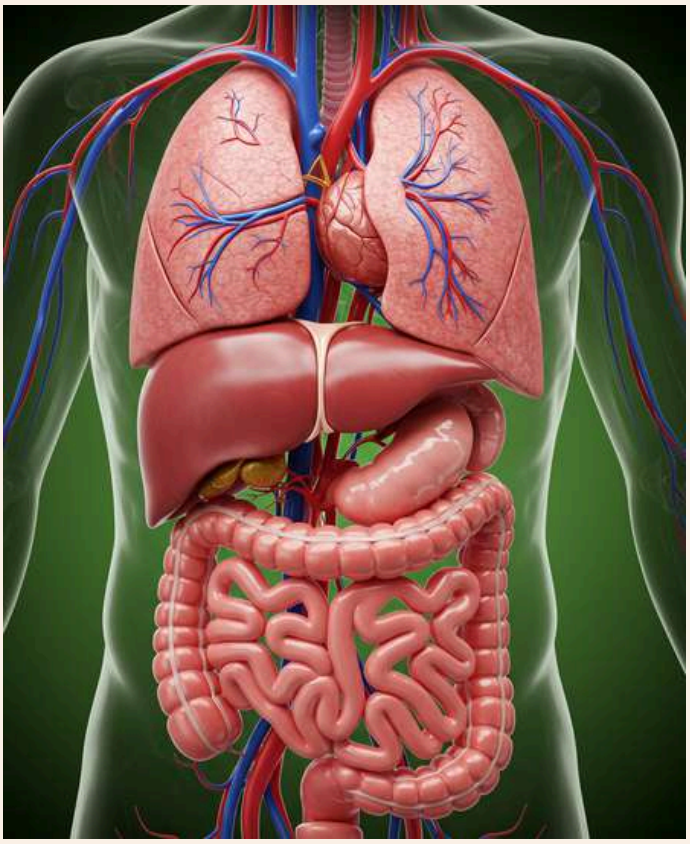
Summary of Contents

Clinical Relevance

Phytotherapy is especially valuable in the management of functional gastrointestinal disorders (such as IBS, indigestion, and bloating) and can serve as an adjunctive therapy in more serious conditions like ulcerative colitis and Crohn's disease, provided it is used under appropriate medical supervision.

The gastrointestinal–liver axis represents a complex and reciprocal communication network, wherein intestinal microbiota, epithelial integrity, and immune signaling pathways influence hepatic health. Disruption of this axis—commonly seen in dysbiosis, increased intestinal permeability, or systemic inflammation—can lead to liver dysfunction and progression of gastrointestinal and hepatic diseases. Phytotherapeutic agents, particularly those with antimicrobial, anti-inflammatory, and antioxidant properties, offer promising tools for restoring gastrointestinal balance and mitigating hepatic inflammation. Botanical extracts such as fermented garlic, licorice, turmeric, and artichoke enhance microbial diversity, reinforce mucosal barriers, and suppress pro-inflammatory cytokines, thereby supporting both gastrointestinal integrity and liver function in a synergistic, integrative manner.

The Gastrointestinal Tract Introduction:



The gastrointestinal (GI) tract is a vital and highly organized system responsible for the intake, processing, and assimilation of nutrients, as well as the elimination of waste products. It comprises a continuous hollow tube that extends through the body and includes a sequence of anatomically and functionally distinct regions, each contributing to the complex process of digestion and absorption.

The pathway begins in the oral cavity (mouth), where mechanical digestion takes place through mastication, while salivary enzymes initiate the chemical breakdown of carbohydrates. Swallowed material then moves through the pharynx and into the esophagus, a muscular tube that uses coordinated peristaltic contractions to deliver food to the stomach.

In the stomach, food is mixed with gastric secretions such as hydrochloric acid and pepsin, which initiate the digestion of proteins and transform the food bolus into a semi-liquid mixture known as chyme. The chyme gradually passes into the small intestine, the primary site for enzymatic digestion and nutrient absorption. The small intestine is divided into three parts:

- The duodenum, where bile from the gallbladder and enzymes from the pancreas are introduced to further digest fats, proteins, and carbohydrates.
- The jejunum, responsible for the majority of nutrient absorption, including amino acids, sugars, and fatty acids.
- The ileum, which completes nutrient absorption and is especially important for absorbing vitamin B12 and bile salts.

The GI tract functions as an integrated system, supported by accessory digestive organs—including the salivary glands, liver, gallbladder, and pancreas—which secrete enzymes, bile, and other substances essential to the digestive process. This elaborate coordination allows for efficient nutrient breakdown, absorption, microbial balance, and waste elimination.

Additionally, the gastrointestinal tract plays a central role in immune function. A significant proportion of the body's immune cells reside in the gut-associated lymphoid tissue (GALT), located within the intestinal mucosa. This system acts as a barrier to harmful pathogens while permitting selective interaction with beneficial microbes and nutrients. The gut microbiome, comprising trillions of microorganisms, is essential for immune modulation, inflammation control, and protection against disease. Disruptions in this ecosystem—such as dysbiosis or chronic inflammation—can compromise immune responses and contribute to the development of autoimmune, metabolic, and infectious diseases.

From the small intestine, the remaining indigestible material enters the large intestine, which is composed of the cecum, ascending colon, transverse colon, descending colon, sigmoid colon, and rectum. The large intestine reabsorbs water and electrolytes, compacts waste into feces, and houses beneficial gut microbiota that contribute to fermentation and immune regulation. Fecal matter is ultimately expelled through the anal canal.

Gastrointestinal Imbalance in the Context of Modern Lifestyles

Inadequate Diet and Nutritional Habits

Diets rich in ultra-processed foods, saturated fats, refined sugars, and low in dietary fiber disrupt the diversity and stability of gut microbiota. These dietary patterns promote inflammation, impair digestion, and are associated with disorders such as bloating, constipation, and irritable bowel syndrome (IBS).

Chronic Psychological Stress

Persistent stress activates the hypothalamic-pituitary-adrenal (HPA) axis, leading to changes in gut motility, reduced splanchnic blood flow, increased visceral sensitivity, and altered microbial composition. Stress is a well-established contributor to functional gastrointestinal disorders, including acid reflux, functional dyspepsia, and IBS.

Physical Inactivity/ Sedentary Lifestyle

IA sedentary lifestyle impairs intestinal transit and overall GI motility, contributing to constipation and reduced microbial diversity. Regular physical activity supports healthy digestion and helps maintain a balanced gut microbiota.

Frequent Use of Pharmaceuticals

DLong-term or excessive use of antibiotics, nonsteroidal anti-inflammatory drugs (NSAIDs), proton pump inhibitors (PPIs), and other medications can disrupt the gut's microbial ecosystem, weaken mucosal defenses, and increase susceptibility to infections and inflammation.

Disrupted Sleep Patterns

Sleep deprivation and irregular sleep cycles negatively affect circadian regulation of digestive function and microbial balance. These disturbances are linked to increased intestinal permeability, low-grade inflammation, and heightened risk for GI disorders.

Substance Abuse

Excessive consumption of alcohol, tobacco, and recreational drugs compromises the integrity of the gastrointestinal mucosa, alters microbiota, and interferes with nutrient absorption, increasing the likelihood of gastritis, liver dysfunction, and inflammatory bowel conditions.

Environmental Exposures

Exposure to environmental pollutants, food additives, pesticides, and contaminants in drinking water can impair the gut barrier, alter microbial composition, and initiate or exacerbate chronic gastrointestinal and systemic inflammation.

The Significance of Phytotherapy in Gastrointestinal Imbalance

Phytotherapy, the use of plant-based treatments for health conditions, plays a significant role in managing gastrointestinal (GI) imbalances due to several key mechanisms:

Modulation of Gut Microbiota
Many medicinal plant, such as chamomile, peppermint, fennel, licorice, and turmeric exhibit prebiotic properties or antimicrobial effects that help restore a healthy gut microbiota balance, which is crucial in cases of dysbiosis.

Anti-inflammatory and Mucosal Healing Effects
Plants like Aloe Vera, Slippery Elm, and Licorice root reduce inflammation in the intestinal lining and promote mucosal regeneration. These effects are particularly beneficial in conditions such as gastritis, irritable bowel syndrome (IBS), and inflammatory bowel disease (IBD).

Spasmolytic and Carminative Actions
Herbs including Peppermint, Fennel, and Chamomile help relieve cramping, bloating, and gas by relaxing smooth muscles of the GI tract, offering symptomatic relief in functional digestive disorders.

Improved Digestion and Gastrointestinal Motility
Bitter herbs like Gentian and Artichoke leaf stimulate the secretion of bile and digestive enzymes, improving nutrient absorption and promoting healthy intestinal motility.

Low Risk of Side Effects
When used appropriately, phytotherapeutic agents generally have a lower side-effect profile compared to conventional pharmaceuticals, making them a safe and effective option for long-term management.

The gastrointestinal tract is not only essential for digestion and nutrient assimilation, but also plays a critical role in immune defense and systemic health. Modern lifestyle factors—including poor nutrition, chronic stress, inactivity, pharmaceutical overuse, and environmental exposures—pose significant challenges to gastrointestinal integrity and function. Promoting gut health through informed lifestyle choices, balanced nutrition, and preventive strategies is essential for maintaining long-term digestive and overall well-being.

Digestiv: Synergy of Herbal Extracts

DIGESTIV capsules contain six herbal extracts whose active compounds act synergistically to relieve various digestive disorders. Chamomile, peppermint, caraway, angelica, and rosemary help relax the smooth muscles of the gastrointestinal tract and reduce gas formation. Fermented garlic, along with chamomile and caraway, stimulates intestinal peristalsis and promotes gas elimination. It is especially recommended for slow bowel movements ("lazy bowel"), constipation, and obstipation. The antimicrobial action of fermented garlic, combined with the gastroprotective effects of olive oil, supports regeneration of inflamed gastric and intestinal mucosa.
These plant extracts also provide relief in functional digestive disorders such as functional dyspepsia, irritable bowel syndrome (IBS), and gastritis—reducing symptoms like abdominal pain, bloating, cramps, fullness, nausea, belching, and heartburn.

Mechanism of Action of Herbal Extracts in Digestiv Soft Capsules

Oil Extract of Fermented Garlic Bulb (Allium sativum)

Fermented garlic shows a significant antioxidant potential that has been shown to preserve the health of the gastrointestinal tract. Garlic fermentation increases the concentration of beneficial S-allyl-cysteine (SAC), a compound that is responsible for many of its health benefits. Mechanisms of antioxidant action of fermented garlic:

Enhancement of Antioxidant Enzyme Activity: Fermented garlic, rich in S-allyl-cysteine (SAC), increases the activity of key antioxidant enzymes such as superoxide dismutase (SOD), glutathione peroxidase (GPx) and catalase. These enzymes neutralize free radicals and reduce oxidative stress in the digestive system, which is a wave of crucial importance for maintaining the health of the mucous membrane of the digestive tract and reducing inflammatory processes that can cause or worsen conditions such as gastritis, reflux, and irritable bowel syndrome (IBS).

Inhibition of Lipid oxidation and cell membrane protection: ISAC from fermented garlic has shown the ability to inhibit lipid oxidation, which means that it can reduce fat peroxidation in the cell membranes of the digestive system. This is important because lipid oxidation can cause damage to cell membranes and lead to inflammatory responses in the stomach and intestines, which is often associated with gastrointestinal
Reduction of Inflammation and oxidative stress: Fermented garlic reduces the production of pro-inflammatory cytokines (such as TNF-alpha, IL-6) and prostaglandins, which are responsible for oxidative stress and inflammation. In the digestive tract, this reduces irritation mucosa, improves the balance of intestinal flora, and can help in the treatment of conditions such as gastroesophageal reflux disease (GERD) and gastritis

Fermented garlic in combination with cumin, angelica, mint, rosemary and chamomile extracts in olive oil presents a synergy that not only reduces oxidative stress and inflammation in the digestive system, it improves digestion, reduces symptoms such as bloating, gas, gas and heartburn, and supports healthier intestinal microflora. Antioxidant properties of fermented garlic, enhanced by others plant extracts, contribute to preserving the integrity of the digestive tract mucosa, reducing the risk of developing chronic diseases such as gastritis, reflux and irritable bowel syndrome (IBS). Olive oil as a carrier of active plant ingredients not only improves absorption of these bioactive molecules, it is characterized by its antioxidant properties thanks to high concentrations of oleuropein and hydroxytyrosol, which additionally protect gastrointestinal tract.

Mechanism of Action of Herbal Extracts in Digestiv Soft Capsules

Chamomile flower oil extract (Matricaria recutita)

Chamomile offers antimicrobial (against Candida albicans, Gram-positive and Gram-negative bacteria), anti-inflammatory, spasmolytic, and antioxidant effects. It soothes digestive discomforts and is especially effective against cramping, indigestion, IBS, and chronic inflammatory bowel conditions. The role of chamomile flower oil extract in the prevention and alleviation of gastrointestinal tract complaints is reflected in the fact that it is most recommended for spasms due to its carminative effect, indigestion, as well as for inflammatory processes of the organs of the digestive tract (irritable bowel syndrome and chronic inflammatory bowel disease).

Oil extract of the mint leaf (Mentha piperita)

Menthol, a major component, leads to relaxation of the GI smooth muscle, helping alleviate spasms and cramping, as seen in irritable bowel syndrome (IBS). Peppermint can slow peristalsis by reducing muscle tone in the lower GI tract, contributing to relief of symptoms like diarrhea or abdominal cramping. It may stimulate bile flow from the gallbladder, aiding digestion of fats and supporting liver function. Menthol activates TRPM8 receptors (cold-sensitive receptors), producing a cooling and soothing effect and reducing discomfort. It may also inhibit prostaglandin synthesis, reducing local inflammation. Peppermint oil has antibacterial and antifungal properties, which may help balance gut microbiota or manage mild infections. By relaxing the GI tract and reducing gas formation, it helps in expelling gas (flatulence) and reducing bloating.

Oil extract of angelica root (Angelica archangelica)

One of the ingredients of the plant is essential oil. In addition to essential oil, angelica also contains: b-phellandrene, d-3-carene, but also a whole series of lactones, as well as a high content of coumarin. The calming effect of this plant on the gastrointestinal system originates from coumarin. It acts as a stomachic (improves digestion) and spasmolytic (relaxes the smooth muscles of the digestive tract). As an aromatic, bitter stimulant, angelica is important for supporting the health of the digestive system, neutralizing gas and reducing bloating. Angelica root is antibacterial (prevents the growth of bacteria, Clostridium difficile, Clostridium perfringens, Enterococcus faecalis) and antifungal (prevents the growth of fungi, Candida albicans). It is used as a soothing ingredient for many digestive disorders, relaxes the smooth muscle of the digestive tract, but acts as an anti-inflammatory (reduces the inflammatory reaction) and an antioxidant (neutralizes free radicals).

Mechanism of Action of Herbal Extracts in Digestiv Soft Capsules

Oil extract of the rosemary leaf (Salvia rosmarinus)

Rosemary contains ingredients capable of effectively neutralizing free radicals. It is believed that the carrier of this activity is carnosolic acid, which is a lipophilic antioxidant and a good “catcher” of singlet oxygen, hydroxyl and peroxyl radicals that affect the breakdown of biological membranes. Rosemary is a good antiseptic, spasmolytic, astringent, carminative, diaphoretic, digestive and stomachic, so it is successfully used in the treatment of various disorders of the digestive system. It is considered a good antiseptic of the digestive tract, prevents and removes flatulence. It is used for the treatment of dyspeptic complaints, sluggishness of the stomach and lazy intestines.

Oil extract of the caraway fruit (Carum carvi)

Caraway fruit extract exerts multiple beneficial effects on the gastrointestinal (GI) tract through a range of pharmacological mechanisms, primarily attributed to its essential oils—particularly carvone and limonene. It relaxes smooth muscles in the GI tract, especially in the stomach and intestines, thereby relieving cramping and discomfort. Caraway also reduces gas formation and facilitates the expulsion of intestinal gas (flatulence), likely through modulation of gut microbiota and fermentation processes. In addition, it enhances gastric emptying and supports digestion by stimulating gastric secretions. Certain constituents, such as flavonoids and phenolic acids, exhibit anti-inflammatory activity in the GI tract, potentially alleviating mucosal irritation.

The gastrointestinal–liver axis plays a critical role in maintaining systemic health, with disruptions contributing to the onset and progression of both digestive and hepatic disorders.

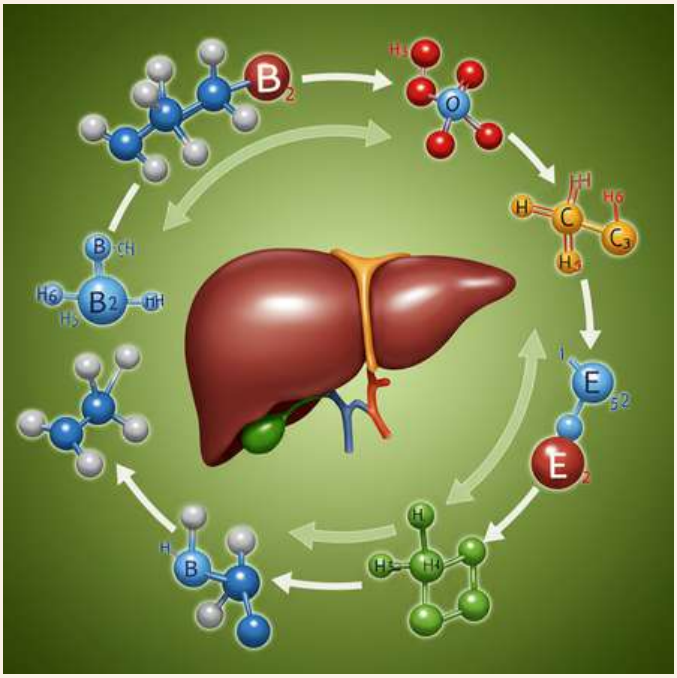
Dysbiosis, increased intestinal permeability, and chronic inflammation are key drivers of dysfunction within this axis.

Phytotherapeutic agents with antimicrobial, anti-inflammatory, and antioxidant properties offer a valuable, integrative approach to restoring balance in the gut–liver axis.

Botanical extracts such as fermented garlic, turmeric, mint, angelica and caraway have demonstrated potential to enhance gut microbial diversity, strengthen mucosal barriers, and reduce hepatic inflammation.

Liver Health

Introduction:



The liver, a vital organ responsible for over 500 essential functions in the human body, plays a central role in metabolism, detoxification, and nutrient storage. Despite its importance, liver health often remains overlooked until disease progresses to advanced stages. Liver disease encompasses a wide spectrum of conditions ranging from hepatitis and fatty liver disease to cirrhosis and liver cancer. These conditions can result from a variety of factors, including viral infections, excessive alcohol consumption, obesity, and genetic predispositions. In recent decades, non-alcoholic fatty liver disease (NAFLD), in particular, has emerged as a major public health concern, closely linked to the rising global prevalence of obesity and metabolic syndrome.

The burden of liver disease is not distributed evenly across populations. Epidemiological data reveal significant disparities influenced by geography, ethnicity, socioeconomic status, and access to healthcare. For example, viral hepatitis remains endemic in parts of Asia and Africa, while alcohol-related liver disease is more prevalent in parts of Europe and North America. In lower-income communities, barriers to early detection and treatment contribute to higher morbidity and mortality rates. These patterns highlight the intersection of liver health with broader social determinants of health and underscore the need for targeted public health interventions.

As liver disease becomes increasingly prevalent across diverse demographic groups, it is essential to understand not only its clinical aspects but also how it is represented and addressed in public health discourse.

Hepato Care: Supporting Liver Health with Herbal Extracts

Fermented Garlic Oil Extract (Allium sativum)

Fermented garlic oil shows extremely positive effects on liver health, thanks to its richness in S-allyl-cysteine (SAC), which provides hepatoprotective, hepatoregenerative, and antioxidant effects. In combination with extracts of butterwort, yarrow, and immortelle, this preparation offers a synergistic effect in promoting a healthier liver, regulating liver enzyme levels, preventing liver damage, and supporting liver cell regeneration.

Mechanism of Action

Antioxidant Protection: SAC from fermented garlic reduces oxidative stress in the liver, thereby protecting hepatocytes (liver cells) from damage caused by free radicals and inflammation.
Hepatoprotective Effects: Fermented garlic activates glutathione, one of the most important antioxidants in the body, which helps detoxify the liver.
Increasing Liver Enzyme Levels: Fermented garlic can positively affect liver enzymes, including ALT (alanine aminotransferase) and AST (aspartate aminotransferase), improving liver function and reducing the risk of liver cell damage.

Oil Extract of Yarrow Herb (Achillea millefolium)

Yarrow is rich in flavonoids, sesquiterpene lactones, and phenolic acids (e.g., chlorogenic acid). These compounds scavenge reactive oxygen species (ROS), reducing oxidative stress—a key factor in liver cell damage in conditions such as hepatitis, cirrhosis, and non-alcoholic fatty liver disease (NAFLD). Yarrow also inhibits pro-inflammatory cytokines such as TNF-α, IL-1β, and IL-6. Extracts of Achillea have been shown to regulate liver enzymes such as ALT and AST, which are elevated in liver damage, indicating a protective or stabilizing effect on hepatocyte membranes. Traditionally, yarrow has been used to stimulate bile flow, supporting liver function and digestion.

Oil Extract of Dandelion Root (Taraxacum officinale)

As a bitter agent, dandelion root extract is used to stimulate appetite and bile secretion. It has an important role in the treatment of various gastrointestinal diseases, such as heartburn and dyspepsia. Dandelion has pronounced antioxidant, anti-inflammatory, anti-cancer, and hepatoprotective properties (especially beneficial in cases of liver damage caused by alcohol or medications). It can also be recommended for inflammation, digestive disorders, and as an auxiliary tool in the treatment of viral hepatitis. In addition to affecting blood glucose levels, dandelion reduces total cholesterol and triglyceride levels, making it valuable in the treatment of fatty liver disease.

Vitamin E

Vitamin E, a fat-soluble antioxidant, offers several benefits for liver health, particularly in diseases characterized by oxidative stress and inflammation. It neutralizes free radicals, which can cause oxidative damage to liver cells. This is especially important in conditions like non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH). Vitamin E reduces the production of inflammatory cytokines in the liver, helping slow disease progression in chronic liver inflammation. Studies have shown that vitamin E supplementation can reduce elevated liver enzymes (e.g., ALT, AST), which are markers of liver damage, particularly in individuals with NAFLD/NASH. By reducing oxidative stress and inflammation, vitamin E may help prevent or slow the progression of liver fibrosis (scarring), a key factor in chronic liver disease. Some research suggests that it may help regulate lipid metabolism in the liver, potentially reducing fat accumulation.

Mechanisms of Action of the Key Ingredients in Hepato Care:

B Complex Vitamins

Vitamins B2, B6, B12, and folate help reduce oxidative stress by maintaining glutathione levels and supporting detoxification enzyme function. B vitamins enhance liver enzymatic pathways (especially Phase I and II) that process toxins and drugs. They prevent fatty liver disease by supporting fat breakdown and energy production. Through methylation and regulation of homocysteine levels, B vitamins also reduce inflammatory processes in liver tissue and support liver regeneration.

Oil Extract of Immortelle Herb (Helichrysum italicum)

Immortelle contains flavonoids, acetophenones, and phloroglucinols, which scavenge free radicals and reduce oxidative stress in liver cells. Oxidative stress is a major contributor to liver inflammation and fibrosis. Compounds in the extract inhibit pro-inflammatory cytokines (e.g., TNF-α, IL-1β) and modulate the NF-κB pathway, helping reduce liver inflammation. Immortelle has mild choleretic (stimulating bile production) and cholagogue (stimulating bile flow) properties, which may support liver detoxification and bile-related functions. It may stabilize hepatocyte membranes and prevent cell damage from toxins such as alcohol, drugs, or environmental chemicals.

Herbal extracts with anti-inflammatory, antioxidant, and microbiota-modulating properties such as fermented garlic and chamomilecan help restore intestinal homeostasis and reduce hepatic inflammation.

Maintaining optimal liver health is essential for overall well-being, as the liver plays a central role in metabolism, detoxification, and systemic homeostasis. In the face of rising liver disease incidence particularly non-alcoholic fatty liver disease (NAFLD), there is growing interest in safe, effective, and integrative therapeutic strategies.

Phytotherapy represents a valuable approach in liver care, offering hepatoprotective, anti-inflammatory, and antioxidant benefits with minimal side effects. The Hepato Care formulation, combining fermented garlic oil with dandelion root, yarrow, immortelle, and essential vitamins, provides a comprehensive support system for liver function. Each ingredient contributes synergistically: fermented garlic enhances liver detoxification and regeneration; dandelion and immortelle stimulate bile flow and combat oxidative stress; yarrow offers enzymatic regulation and anti-inflammatory activity; while B-complex vitamins and vitamin E further strengthen the liver's antioxidant defenses and metabolic capacity.

This multi-targeted herbal approach not only supports liver enzyme balance and cellular protection but also addresses broader metabolic and inflammatory pathways associated with chronic liver conditions. As scientific understanding of the gut–liver axis and phytotherapeutic mechanisms evolves, liver support supplements like Hepato Care stand as promising tools in both preventive care and the management of liver dysfunction.

Phytotherapy offers a safer alternative or adjunct to conventional therapies, with fewer side effects and the potential for long-term use in chronic conditions such as NAFLD, IBS, and SIBO.

Future clinical strategies should include plant-based formulations that act on both gastrointestinal and hepatic pathways, especially in patients with comorbid digestive and metabolic disorders.

Natural support for a healthy and resilient liver

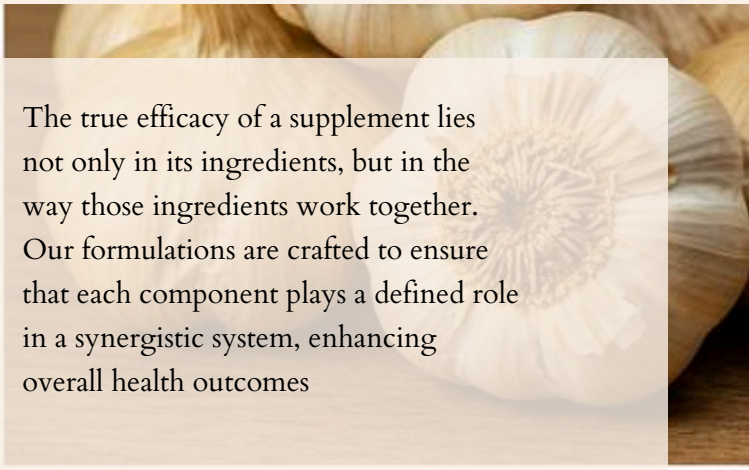
2025

SYNERGY IN SUPPLEMENTS

WHAT DOES INGREDIENT SYNERGY MEAN IN A SUPPLEMENT?

SYNERGY MEANS BETTER RESULTS WITH LOWER DOSES

SMART COMBINATIONS – THE BODY RESPONDS BETTER TO TEAMWORK THAN TO RANDOMNESS



The true efficacy of a supplement lies not only in its ingredients, but in the way those ingredients work together. Our formulations are crafted to ensure that each component plays a defined role in a synergistic system, enhancing overall health outcomes

BETTER ABSORPTION AND EFFECTIVENESS

COMPREHENSIVE ACTION ACROSS BODY SYSTEMS

REDUCED SIDE EFFECTS

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