

# Using Natural Medicine to Improve Health and Longevity

Christina Rahm\*, M.S., Ph.D., Ed.D.

USA

Corresponding Author: Christina Rahm, M.S., Ph.D.,  
Ed.D. USA.

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## 1. Introduction

Recently, there has been a trend among people to look forward to using natural medicines as a way to improve their general health and longevity. With patients eager to escape from conventional procedures, most are using plant-derived products, herbs, and indigenous systems of medication handed down through generations. Natural medicine, or complementary or alternative medicine, attempts to use several remedies derived from nature to achieve a state of homeostasis, eliminate or prevent diseases, and promote health. These treatments complement the body's natural systems, supporting a strong immune system, increasing mental acuity and healthy digestion, and combating aging signs. Moreover, most natural compounds are reported to have minor side effects compared to synthetic products, making natural treatment methods a suitable option to enhance the natural and non-intrusive techniques of personal health. As scientific research goes on and investigates the possible benefits of natural medicine, people have witnessed how naturopathy can help them live a healthy life and maybe even add more years to their life expectancy. This way, people show respect towards using nature's knowledge and act towards reaching a longer and healthier life.

## 2. Literature

Inulin is a naturally occurring soluble fiber found in onions, bananas, and chicory root. It serves as a prebiotic, selectively stimulating the growth and activity of beneficial gut microbiota, thereby enhancing digestive health and supporting overall gut microbiome balance. According to Alonso-Allende, inulin is also effective in treating constipation as it promotes bowel movements and is effective in managing weight as it helps to boost fullness [1]. Dietary fiber has shown the potential to modulate glycemic control, particularly when used as an adjunct to pharmacological diabetes management. While short-term benefits on blood glucose regulation are well documented, the long-term metabolic impacts and mechanisms of action require further investigation. Furthermore, inulin can effectively influence the blood cholesterol and triglycerides essential to cardiovascular health [1]. Inulin is generally recognized as safe when consumed in dietary amounts; however, excessive

intake may lead to gastrointestinal discomfort, including bloating and altered bowel motility. Overall, inulin exerts beneficial effects on gut microbiota composition, metabolic regulation, and weight management, which may contribute to improved health and longevity.

Green banana flour, produced from unripe bananas, is an emerging functional food gaining recognition for its potential health benefits and longevity-promoting properties. Rich in resistant starch, a prebiotic fiber, it supports gut health by enhancing the proliferation and activity of beneficial gut microbiota, thereby optimizing digestive function and metabolic health. This fiber is not utilized in the small intestine but passes to the colon, providing food for good bacteria and thus balancing the microbiome [2]. Optimal gut health is fundamental to both physiological and cognitive well-being, as the gastrointestinal system serves as a primary barrier against pathogens, modulates metabolic processes, and influences neurochemical signaling that impacts mood regulation. According to research by Munir, green banana flour is a rich source of potassium, magnesium, and vitamin B6—key micronutrients essential for cardiovascular function, blood pressure regulation, and optimal nervous system performance [2]. The low glycemic index of sweet potatoes allows them to be consumed by those with type 2 diabetes, as they may help prevent the disease. Additionally, green banana flour is naturally gluten-free, making it a valuable dietary alternative for individuals with celiac disease or gluten intolerance [2]. Its inclusion in the diet supports digestive health and metabolic function, contributing to overall well-being and potentially promoting longevity.

Apple fiber, derived from the pulp of apples, is a rich source of both soluble and insoluble fiber, contributing to optimal digestive function and overall health. The insoluble fiber component aids in promoting regular bowel movements and preventing constipation, while the soluble fiber, primarily pectin, serves as a prebiotic, fostering the growth of beneficial gut microbiota in the large intestine, thereby enhancing gut health and microbiome balance [3]. In addition to supporting digestion, apple fiber plays a role in

weight control by boosting feelings of satiety, decreasing appetite, and regulating postprandial glucose levels, which makes the product useful for people who want to lose weight or have diabetes mellitus. Furthermore, the fiber in apples reduces LDL cholesterol, as we know it plays a role in heart disease [3]. Apple fiber also contains polyphenols, which are antioxidants that shield cells from stress and inflammation that induce aging and diseases. Apple fiber may reduce the risk of diseases, protect the gut lining, reduce cholesterol levels, and possess anti-inflammatory properties, making it a worthy supplement to a lifelong disease-preventing diet.

Spirulina is a nutrient-dense blue-green cyanobacterium recognized for its high concentration of bioactive compounds, including proteins, essential amino acids, vitamins, minerals, and antioxidants. Its potent health-promoting properties contribute to enhanced physiological function, immune modulation, and potential longevity benefits. Spirulina is a nutrient-dense cyanobacterium that provides a complete protein profile, containing all nine essential amino acids [4]. It is abundant in vitamins, minerals, and antioxidants, including B-complex vitamins such as B12, which supports energy metabolism and neurological function, and vitamin A, which plays a crucial role in immune system regulation and skin integrity. The high chlorophyll content in Spirulina aids in the body's detoxification process since chlorophyll can bind with toxins and heavy metals and thus enhance liver functions to a greater extent. It has antioxidants, including phycocyanin, that work to counter free radicals, leading to fewer oxidative stresses, which are determinants of aging and a range of chronic diseases [4]. More importantly, spirulina has been noted to boost heart health as it optimizes cholesterol and improves blood flow. It may also shed some light on how it reduces inflammation, which can be used to lower the risk of diseases like arthritis. Daily intake of Spirulina vitamins and minerals provides a natural immune system, enhanced digestion, and improved mental function, resulting in a better quality of life [4]. Rich in essential nutrients, including potent antioxidants and bioactive compounds that support detoxification, Spirulina plays a crucial role in promoting longevity. Its ability to combat oxidative stress, enhance cellular resilience, and support metabolic health makes it a valuable ally in maintaining vitality and strength throughout the aging process.

Barley grass, derived from the young leaves of the *Hordeum vulgare* plant, is a highly bioactive nutritional compound associated with enhanced longevity and overall well-being. As reported by Ali, barley grass is a dense source of essential vitamins, minerals, and antioxidants, including vitamins A, C, and K, as well as calcium, magnesium, and potassium [5]. These micronutrients play critical roles in physiological processes, such as bone homeostasis (via calcium and vitamin K), immune modulation (via vitamin C and bioactive phytonutrients), and cardiovascular function (via potassium and magnesium). Its potent antioxidant profile further supports cellular defense mechanisms, reducing oxidative stress and promoting systemic health. Barley grass, derived from the young leaves of the *Hordeum vulgare* plant, is a highly bioactive nutritional compound

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A study conducted by Su indicates that alfalfa leaf powder is made from the leaves of the alfalfa plant and is a highly potent superfood that can enhance the quality of life and increase its duration [6]. Being "an excellent source of vitamin A, C, E, K, and B complex vitamins, alfalfa leaf powder aids the body's immune response to skin and vision health. It is rich in calcium, magnesium, potassium, and iron that aids in strengthening bones, regulating blood pressure, and promoting cardiovascular disease." Alfalfa also has antioxidants, the chemicals that fight free radicals and lessen oxidative stress, which are significant causes of aging and chronic disease [6]. Alfalfa leaf powder is rich in chlorophyll, a bioactive compound known for its detoxifying properties, as it mimics and supports hepatic function in the elimination of toxins. Additionally, its high fiber density aids in digestive health, enhances detoxification processes, and may contribute to the regulation of cholesterol and blood glucose levels, making it a valuable component for long-term health maintenance. Alfalfa is a nutrient-dense botanical rich in vitamins, minerals, antioxidants, and dietary fiber. Its bioactive compounds contribute to immune system modulation, support optimal digestive function, and promote cellular repair mechanisms. By enhancing metabolic processes and mitigating oxidative stress, alfalfa plays a role in fostering healthy aging and longevity.

Psyllium husk powder, derived from the seeds of *Plantago ovata*, is a highly beneficial natural fiber supplement known for its positive impact on health and longevity. As a soluble fiber, psyllium absorbs water upon entering the digestive tract, forming a gel-like substance that modulates intestinal transit. This property makes it effective in managing both constipation and diarrhea by promoting stool consistency and supporting gastrointestinal function [7]. Psyllium husk is a highly soluble fiber that plays a crucial role in maintaining gastrointestinal health by promoting regular bowel movements, supporting gut microbiota balance, and enhancing overall digestive function. Its high fiber content facilitates cholesterol reduction by binding to bile acids, thereby promoting the excretion of cholesterol and

contributing to cardiovascular disease prevention [7]. Fiber, especially psyllium husk, slows the rate of sugars getting into the blood system and is therefore rated as a good supplement to manage type 2 diabetes. Further, promoting satiety can help manage obesity since appetite is suppressed and one cannot overindulge. It also helps detoxify the body by encouraging elimination and removing waste and toxins [7]. With its ability to promote digestive health, reduce cholesterol levels, maintain blood sugar levels, and help people lose weight, Psyllium husk powder helps improve longevity, energy, and quality of life.

Spinach, a nutrient-dense leafy green vegetable, is recognized for its significant contributions to both physical and cognitive health. It is a rich source of essential micronutrients, including vitamins A, C, and E, which play a critical role in immune function, visual health, and antioxidative defense mechanisms. These vitamins help mitigate oxidative stress, a key factor in cellular aging and disease progression [8]. Spinach also carries a lot of folate, which play great importance in the repair of DNA and the regeneration of cells, thus fostering the growth of healthy and long-lived cells. Additionally, spinach is a nutrient-dense leafy green abundant in antioxidants, including lutein and zeaxanthin, which play a crucial role in maintaining ocular health and may help reduce the risk of cataracts and age-related macular degeneration. It is also a rich source of iron and magnesium, essential for optimal oxygen transport, muscle function, and energy metabolism. Furthermore, its high potassium content contributes to blood pressure regulation, potentially reducing the risk of cardiovascular diseases [8]. Spinach is highly beneficial for digestive health due to its rich fiber content and bioactive compounds that support gut function. Additionally, its diverse mineral composition exhibits anti-inflammatory properties, which may help mitigate the risk of chronic conditions such as arthritis and cardiovascular disease. Spinach helps detoxify the cardiovascular system and prevents degenerative diseases resulting from aging, making it an essential food for longevity.

Just as everyone perceives parsley as a typical salad garnish, the plant is nutritionally dense and could be helpful for overall well-being and lifespan [9]. Packed with vitamins A, C and K, parsley works to restore the strength of the immune system, the health of the skin and the density of the bones. Vitamin C helps prevent oxidative loss of cells, and vitamin A is essential for ocular health and preventing age-related vision disorders in the elderly. Parsley is a rich source of vitamin K and folate, both of which play critical roles in cellular function and longevity. Folate is essential for DNA synthesis and repair, contributing to cellular regeneration and mitigating age-related decline. Additionally, parsley is abundant in chlorophyll, which has been shown to support hepatic detoxification pathways, aiding in the elimination of toxins and promoting overall liver health [9]. Parsley can also be categorized as a natural diuretic that helps fight bloating and promotes the work of the kidneys when it comes to detoxifying. Flavonoids, also members of the antioxidant family, are also present in this herb and help with inflammation and guard against diseases such as

heart disease and arthritis. Due to its high fiber content, it is beneficial for digestion and overall health. It is, therefore, essential in a diet to promote immunity, detoxification, digestion, and a reduction of inflammation, thus enhancing a longer life span and hence the importance of parsley [9].

Aloe vera, a plant with properties that help reduce inflammation, contains many vitamins, minerals, antioxidants, and enzymes that make the plant beneficial for overall health and longevity. It is a 'good source of vitamins A, C, E, and B12, enhancing immunity, preventing oxidization, and skin care. Its vitamin content, especially beta-carotene, helps remove antioxidants, decreasing the chances of diseases like cancer and heart disease and slowing ageing [10]. Aloe vera is also known to have special stomach-promoting features. This enzyme helps digest sugars and fats in the body and thus enhances the proper digestion of foods in the gut. Another advantage is the moderate anti-inflammatory effect observed in the treatment of various disorders of the gastrointestinal tract, from bloating to ulcer diseases or irritable bowel syndrome. In addition, it is also helpful in detoxifying properties and helping boost the liver's capability to remove toxins from the body [10]. Since the plant can moisten and feed the skin internally and externally, it tightens the skin to eliminate wrinkles and other aging signs. This makes aloe vera an essential ingredient in longevity because people age healthily and gain better vitality through support to the digestive, skin, detoxification, and immune functions.

Water is an essential element for human survival and plays a critical role in overall health and longevity. As the primary constituent of the human body, comprising approximately 60% of total body mass, water is integral to nearly all physiological and metabolic processes. It is involved in thermoregulation, digestion, detoxification, and joint lubrication [11]. Adequate hydration also supports skin homeostasis by enhancing elasticity, promoting cellular renewal, and reducing the likelihood of dryness and premature signs of aging. Enable fluid balance, which eases the hard work of filtering out waste products that cause the formation of kidney stones and eases invasion of urinary tract infections [11]. It also tries to maintain the body's blood pressure, ensure proper blood circulation, and never let the body dehydrate, causing severe heart problems. Hydration is essential for appropriate brain functioning and energy, specifically for the brain's electric activity and unique consciousness to focus intensely. From a lifespan perspective, adequate water intake decreases the possibility of developing chronic diseases such as heart disease, diabetes, and even cancer while promoting metabolism.

Zeolite extract, a mineral, provides an extraordinary boost to health, vitality, and longevity that is unmatched by any pharmaceutical product. Admired for its spheres with interconnected channels, zeolite can rapidly get attached to and envelop toxic metals, toxins, and other dangerous particles in the body to escort them out [12]. It also helps enhance liver functions, increases energy production, and improves the immune system's strength. Oxidative

stress accelerates aging and several chronic diseases that are associated with antioxidant protection provided by zeolite. Moreover, zeolite controls pH levels within the body, improves the digestive system, and increases nutrient uptake within the body system [12]. Derived from natural sources, zeolite extract removes toxins from the body and shields against this sort of cell damage, therefore tremendously contributing to enhanced health, energy, and longevity.

Vitamin C is essential for enhancing health and increasing life span. Because it decreases free radicals, vitamin C is critical in vitamin minerals' ability to prevent oxidative damage and a host of diseases associated with aging and other severe conditions like heart disease, cancer, and other ailments [13]. Vitamin C is needed to make collagen, a protein that aids in skin, joint, and blood vessel health, preserving skin tone, reducing the 'appearance of wrinkles and preventing the development of age-related skin-related disorders.' It also supports immunity by increasing the number of recorded white blood cells, which assists in fighting diseases and sickness. Additionally, vitamin C helps the body absorb iron in food, avoiding low energy levels and anemia [13]. Oxidative stress defence, immune enhancement, collagen synthesis, and ascorbic acid's role are crucial to a long and vibrant healthy life.

Sea mineral concentrate produced from seawater contains vital minerals and trace elements necessary for human health and longevity. Sea mineral concentrate is a blend of magnesium, calcium, potassium, iodine, and other critical beneficial minerals in the body, such as magnesium, calcium, potassium, iodine, and other valuable minerals that play numerous roles in the body, including maintaining the health of bones and muscles, regulating fluids, and facilitating cellular activity [14]. Besides, the regular consumption of products containing these minerals prevents heart issues, muscle contraction, and relaxation, as well as the formation of bones and teeth. The iodine keeps the thyroid gland healthy, and this gland is responsible for regulating metabolism and energy production. Sea minerals also assist in carrying out some detoxification processes in the body; they aid in eliminating toxic substances [14]. Also, the naturally occurring trace minerals in sea mineral concentrate enhance the activity of enzymes, hormones, and immune system body cells, adding to health energy and resistance to diseases. It can provide effective solutions for digestion problems, increase hydration of the body and skin, and make the skin look young. Over time, sea mineral concentrate has been used naturally to replenish the body's mineral supply, thus aiding the cells to function well, hence healthy and long-lived.

Potassium sorbate is a naturally occurring preservative obtained from potassium salts of sorbic acid, usually added to food products, drugs, and cosmetics to act as an antimicrobial agent that inhibits the growth of molds, yeasts, and bacteria and thereby 'prolongs the shelf life of the product' [15]. It is not a 'nutrient' in the usual sense as it does not supply the body with energy, vitamins, minerals, or vital nutrients, but it plays a significant role in supporting

the health of the food processing or manufacturing industry by providing safe means for preserving food and packaged goods, and this helps to eliminate unwanted spoilage and life-threatening foodborne diseases. Because potassium sorbate inhibits the effects of microbes on foods, the vitamins and minerals are also retained, keeping them fresh for longer durations [15]. This helps improve the general health of an individual since they can take foods knowing well that they are a hundred percent natural and organisms are hence rendered ineffective. Moreover, potassium sorbate is a safer synthetic preservative than its chemical counterparts due to its classification as GRAS for its low usage in concentrations. Skin treatment retains product integrity and ensures they do not get ruined or become less effective [16]. While potassium sorbate does not come with health or longevity-boosting properties of its own as most food additives do, the functionality that potassium sorbate incorporates into the community and day-to-day food and personal care products helps extend the shelf life and safely ensures food and personal care products quality of consumables, which in turn contributes to a better and healthier lifestyle in the long run.

Zinc chloride concentrate is a compound primarily made of zinc, which has many health benefits for the body and longevity. Zinc is an element that plays an essential role in many biochemical processes; it is involved in immune function and DNA synthesis, amongst other roles. Zinc chloride has the desired effect on the immune system by stimulating its health-improving elements, such as white blood cells required for fighting infectious organisms and diseases [17]. It also benefits the skin by promoting the synthesis of collagen, which is necessary for skin repair, supporting skin tone, and fighting wrinkles due to aging. Further, zinc is essential in the proper functioning of neurons and in maintaining the integrity of the brain cells against oxidative stress. Zinc chloride also has a vital role in metabolic processes; it helps the hormone insulin send glucose where it needs to go in the body, maybe assisting in blood sugar control. Besides, the role of zinc is also crucial for the eyes because it halts age macular degeneration [17]. The benefits of zinc chloride include immune modulation, skin health, and cellular repair, hence supporting health, vitality, and longevity, resulting in a healthy, long life.

Potassium iodide is a mineral commonly used by the body to support various functions and is essential for the quality and duration of life. Apart from being a part of thyroid hormones, iodine plays a vital role in metabolism, energy-producing processes, and physical growth of the human body [18]. Thus, iodine helps maintain regulation within the thyroid gland and the workload of multiple essential body systems, such as the cardiovascular and nervous systems. Sufficient amounts of iodine assist in the prevention of hypothyroidism (an underactive thyroid gland), which can cause symptoms such as fatigue, weight gain and impaired brain function. Apart from thyroid function, iodine plays an essential role in neurological and cognitive development throughout pregnancy and infancy, affecting the intelligence quotient [18]. Also, iodine is known to possess excellent antibacterial

properties, making it helpful to ward off dangerous forms of bacteria. As a mineral that helps keep thyroid function at the proper levels, boosts brain health, and fights infections, iodine (potassium iodide) is essential to vitality, a long life, and well-being, thus making it a necessary nutrient in a person's life.

N-acetyl L-Cysteine or NAC, is an antioxidant and an amino acid compound well known for its many health benefits and ability to promote healthy aging. NAC is popular for raising the body's glutathione levels, one of the most potent antioxidants that combat harmful free radicals and cut down oxidative stress, an essential cause of aging and various diseases [19]. Basal NAC reduces cellular damage and thus has anti-ageing effects, reducing the possibility of other diseases, cardiac problems, cancer, and neurodegenerative disorders. On the other hand, NAC helps detoxification, primarily through its assistance in liver detoxification, where toxins and heavy metals are flushed out of the system [19]. It is also used in treating respiratory disorders such as cystic fibrosis to aid in breaking mucus in the lungs and facilitate breathing in COPD. NAC has an impact on improving general health, well-being, and longevity through ways such as increasing antioxidant activity, detoxification, and respiratory system health.

Calcium carbonate is one of the most common mineral supplements widely used to promote good health and longevity, mainly due to its decisive importance in mineralizing bones. Calcium carbonate provides the calcium needed to build strong bones and teeth and prevent osteoporosis and the fractures people experience due to old age [20]. Calcium is essential for regulating muscle, heart, and nerve activities and acting as a cellular signaling and fluid regulator. Besides helping the body build up its bone density, calcium carbonate also assists in the contraction and dilatation of blood vessels to help lower blood pressure. It also helps the body in coagulation to prevent abnormal bleeding from injuries to the body. Another health benefit of calcium carbonate is that it can mostly be linked to replenishing calcium in the blood to support the cardiovascular and nervous systems [20]. Due to its action on bone mass, cardiovascular health, and calcium deficiencies, calcium carbonate contributes to general health, energy, and longevity. It is a bulwark of a healthy, longevity-oriented diet.

Magnesium oxide is one of the highly assimilable forms of magnesium that have been found to possess various health benefits that are very useful in this world where everyone is longing for longevity. Magnesium plays a role in about 300 metabolic activities and thus acts as a cofactor in the biochemical processes of the nervous system, muscles, and energy metabolism [21]. Magnesium oxide is good for the heart since it helps control hypertension, avoids irregular heartbeats, and ensures good cardiovascular performance. It also plays a role in strengthening bones by affecting calcium uptake and remodeling, thus cutting out osteoporosis and related bone fractures as people age. Furthermore, when it comes to the relation between minerals and mental health, magnesium also has its role: it contributes to the synthesis of neurotransmitters and stabilizes mood, thus decreasing

the risk of developing anxiety, depression, and cognitive impairment in later years [21]. It can also reduce symptoms of constipation due to improved smooth muscle contraction in its movements in the colon. It is helpful for metabolism as it assists in blood sugar regulation and proper insulin functioning [21]. Magnesium oxide contributes to health, vigor, and longevity at optimal doses as an invaluable cofactor for energy metabolism, cardiovascular functioning, bone formation, neuromuscular integrity, and digestion.

The Vitamin B complex comprises eight essential water-soluble vitamins—B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folic acid), and B12 (cobalamin)—each playing a crucial role in maintaining overall health and longevity. These vitamins are integral to energy metabolism, neurological function, and cellular processes, including DNA synthesis and cell division. By facilitating the conversion of macronutrients into usable energy, they contribute to cognitive alertness and help mitigate fatigue [22]. B vitamins are essential to the proper functioning of the nervous system and, therefore, cognition while also reducing the likelihood of developing neurodegenerative diseases such as Alzheimer's in the later years of life. Vitamin B12 and folate are the most important for forming red blood cells, avoiding anemia and proper circulation [22]. Furthermore, B vitamins are also helpful in lowering the homocysteine, an amino acid related to heart ailments, which has a precious effect on heart health. It also helps in the cell regeneration process and hence assists in maintaining healthy skin, hair and eyes. The Vitamin B complex helps stabilize energy, moods, and heart function and repair damaged cells, providing for better aging or a longer life free from illnesses.

Garlic powder, prepared from dried bulbs of garlic, adds numerous nutritional values for people to improve their lifestyles and, consequently, longevity. Garlic is well-known in the literature for its cleansing properties and ability to fight aging due to its high antioxidant and anti-inflammatory effects [23]. The compound called allicin present in garlic also has a beneficial impact on the cardiovascular system as it has overall benefits concerning blood pressure and cholesterol and supplements blood circulation, which reduces the risk of experiencing heart disease or stroke. The powder is also helpful for strengthening immunity, thus enabling the body to combat diseases and resist diseases [23]. In other elements, it also possessed antimicrobials to help support gut health with a balanced microbiota. It also may provide detoxification, as it helps eliminate toxic substances and metals from the internal environment. In addition, garlic has been found to possess some effect on enhancing brain power, thus slowing the development of conditions such as dementia that are realized in old age [23]. Through its impact on heart health, immunity improvement, and the fight against oxidative stress, garlic powder improves health, energy, and lifespan.

Vitamin E acetate (500 IU) is a liposoluble form of this vitamin that has a high availability and climate relevance in the tableted form, and it is a well-known antioxidant

that takes an active part in the defense of the human body against the negative effect of free radicals and that directs to the prolongation of human life [24]. Since the vitamin dissolves in fat, it works as an antioxidant to combat free radicals that because cellular harm implicated in aging and other diseases like cancer and cardiac issues. This nutrient is vital for healthy skin as it increases UV solar defense, promotes wound healing, lessens marks, reduces wrinkle formation structures, and affects skin tone. Vitamin E acetate also protects cardiovascular health by inhibiting the oxidation of LDL cholesterol, whose accumulation leads to atherosclerosis and an increased risk of coronary artery disease [24]. Furthermore, it works on the immune system by increasing the body's protection from infections and inflammation. Vitamin E is essential in helping cells keep their shape, become more numerous, and work efficiently, especially in the brain. Vitamin E acetate protects cells from oxidative damage, maintains skin health, improves the functioning of the heart and immune system, and contributes to overall optimal health and longevity as people age, thus addressing the needs of consumers and their health goals.

Hypochlorous acid (0.046%) is a strong endogenous antimicrobial with many health values, including an immune boost and aging. Being a potent bactericidal, virucidal, and fungicidal and having an immunomodulatory effect, hypochlorous acid is helpful to fend off infections, hence strengthening the immune system to overcome pathogenic forces [25]. It also plays an anti-inflammatory role, which assists in preventing or mitigating inflammation, which is responsible for several chronic diseases like heart disease, arthritis and more. Hypochlorous acid is helpful in the healing of the skin and prevents infection and scarring when used externally to treat a wound [25]. As an antioxidant, hypochlorous acid bolsters physiological defense functions, decreases inflammation and promotes tissue remodeling, thus affirmatively impacting the well-being and durability of the body, both internally and externally.

The essential nutrient Vitamin K2, known as Menaquinone-4 (MK-4), is necessary for maintaining healthy bones and cardiovascular systems, which is fundamental for a long life. MK-4 promotes the activation of proteins that transport calcium to the bones and teeth and prevents calcium deposits on arteries and soft tissues that are a harbinger of cardiovascular diseases and osteoporosis [16]. It also positively affects bone density since it stimulates the protein involved in bone mineralization, osteocalcin. Consuming Vitamin K2 as MK-4 daily can improve cardiovascular health, build stronger bones and prevent common bone fractures, making for a healthier and longer life.

OmniMin AC Powder contains minerals that are good for our health and make individuals live longer by supplementing virtually all trace minerals. These minerals include calcium, magnesium, potassium, and zinc, essential for body functions such as bone structure, muscle contraction, and the immune system [26]. The combination of minerals in OmniMin AC Powder form focuses on enhancing electrolyte imbalance, replenishing water balance, and increasing energy levels. It

also acts as a detoxifying organ because it assists in properly working the kidney and liver and helps expel toxins in the body. OmniMin AC Powder helps sustain the fundamental mineral stores and maintain various metabolic activities, leading to sustainable health, energy levels and quality of life.

NAD, quercetin, and carrot powders are potent ingredients that will perform a bundle of functions to improve overall health and your life span. Quercetin is a flavonoid in fruits and vegetables that reduces oxidative stress, which causes aging and chronic diseases. In addition to being an antioxidant, quercetin helps lessen inflammation to promote the well-being of the heart and immune system and may even prevent diseases such as Alzheimer's. NAD, which act as a coenzyme that is involved in the energy transfer in the cells, removes the wastes and assists in repairing other damaged cells for proper functioning to halt the progression of the age-related diseases [27]. It also works to support the health of mitochondria to ensure the right energy levels and life expectancy. Carrot powder is also a nutrient that contains beta-carotene, which is vitamin A for eyes, skin and immune boosters. Also, on its contents, it is kept in mind that dietary fiber helps in digestion and the overall well-being of the intestinal track, which counts a lot in body health. From these ingredients, one gets the benefit of protection against free radicals; production of energy; boost of the immune and skin systems; all in a foundation of healthy aging.

Used with many other botanical extracts and amino acids, such as Aloe Barbadosensis Leaf Juice, Passiflora Edulis Fruit Extract, Citrus Limon (Lemon) Fruit Extract, Ananas Sativus (Pineapple) Fruit Extract, and Vitis Vinifera (Grape) Extract, the product ensures the general well-being and longevity [27]. This product contains vitamins and such components as aloe vera that are helpful in the skin and aid in skin care, hydration, and the fight against inflammation. Passiflora edulis is also good at steadying the human nervous system and stabilizing the overall sleeping position. Essential oils derived from citrus, such as lemon and bergamot, help enhance the immune system, improve collagen synthesis, elevate antioxidant activity, and contribute to skin well-being. Pineapple extract offers antioxidants that help in the circulation and grape extracts that make the heart healthy [27]. Skin repair and collagen synthesis components such as betaine, amino acids and serine, glycine and proline, sodium PCA and sodium lactate all foster healthy skin with fewer lines and wrinkles. Lavender, rosemary and sage extracts are anti-inflammatory and antimicrobial and positively affect the skin and mental state [27]. White tea, chamomile, and carrot extracts contain essential oils and antioxidants to help the skin fight toxin effects on the skin and enhance healthy, radiant skin. These ingredients benefit the skin, stress levels, water intake, and life span.

Comprising hydrolyzed bovine collagen and whole bovine colostrum powder, the product contains key ingredients that improve general health and longevity management.

Hydrolyzed bovine collagen is one of the best-absorbed forms of collagen, containing 'essential amino acids such as proline, glycine, and hydroxyproline,' which are critical for adequately functioning skin, joints, and connective tissues. It's good for skin elasticity and assists in minimizing wrinkles, hence a component that helps combat aging. They also aid in joint mobility. It also strengthens bones since it has been found to improve collagen synthesis in the body. It contains protein growth factors, antibodies, and other immunomodulators derived from the first milking—the whole bovine colostrum powder [28]. Immune health is enhanced; it can support intestinal repair and may improve muscle repair and performance [28]. Altogether, these ingredients are beneficial for the skin and bones, joints and intestines, and immunity levels, making them critical for the health and wellness of key life processes, protection against aging and the general preservation of energy and well-being in old age.

L-Leucine, L-Isoleucine, L-Valine, L-Lysine, L-Phenylalanine, L-Threonine, L-Methionine, L Tyrosine and L-Cystine's essential amino acids are necessary for muscles, protein building and energy. These amino acids help with muscle rebuilding, which is crucial for people in their old age, as they lose muscle mass faster. HMB (beta-hydroxy beta-methylbutyrate), a metabolite derived from leucine, plays a critical role in reducing lean tissue breakdown, increasing lean body mass, and reducing fat mass, contributing positively to longevity and full-functioning fitness activities [29]. TetraSOD, derived from phytoplankton, safeguards the cells against the most potent oxidants contributing to aging and many diseases. Milk thistle seed and grape seed extract are famous for their benefits in liver cleansing and antioxidant properties, decreasing inflammation within the liver. The Juniper berry is widely recommended as a kidney tonic for cleansing the body and managing edema [29]. L-glutathione reduces free radicle damage, enhances detoxification, strengthens the immune system, and protects cells from harm. Altogether, all these ingredients help to preserve muscles, boost the immune system, cleanse, and fight free radicals, which contribute to aging and other health problems related to inactivity in a person's life [30].

### 3. Conclusion

In conclusion, with the growing focus on natural remedies, plant-based additives, vitamins, minerals, and herbs, there is much hope for enhancing the quality of life and lengthening human life span. These natural compounds interact well with the body's systems, act as an immunity booster, sharpen the mind, and contribute to better well-being. On the other hand, most synthetic products are associated with some side effects, making natural treatments safer for long-term usage and improving health conditions. For example, the flavonoid quercetin and vitamin C decrease oxidative stress, a root cause of aging and chronic diseases. L-leucine, one of the essential amino acids, improves the health of muscles and the brain. L-glutathione is an antioxidant and detoxifier—both vital when we grow older. Natural products such as aloe vera, milk thistle and grape seed extract facilitate liver function, skin health, and detoxification. The body needs

minerals like magnesium and calcium for bone formation, heart rhythm and muscle movement. Working on different aspects of health that include cellular repair mechanisms and immune function, these natural substances combat the ugly effects of ageing and produce a youthful body. With more frequent scientific investigations conducted to discover the usefulness of natural medicine, people read more on how natural remedies improve the quality of human life, not to mention that people who take natural medicines have the potential to live longer, healthier lives. By adopting these natural carriers as the natural healing system, people are empowered to boost their well-being and longevity, directly accessing nature's power for a better future.

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