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Whole Body Health: Making Connections

As consumers prepare to confront a cascade of interconnected challenges, brands have ample opportunities to meet the needs of the moment.

By Sean Moloughney
Editor

The COVID-19 pandemic has reshuffled markets and reshaped consumer mind-sets and personal priorities, leading to broader awareness of the importance of managing a wide range of health demands. Heightened attention to immune health has been at the forefront, as consumers faced the reality of an infectious disease in their communities; the accompanying high levels of stress and anxiety have also been top of mind.

As a result, many consumers are taking a more active role in managing their health. According to a HealthFocus International survey, by the end of 2020, nearly half (46%) of global consumers had taken greater control of their health;

38% improved their diet, and 28% increased their activity level since the pandemic. Sales of supplements aimed at immunity, cold, and flu increased by \$1.8 billion in the U.S. in 2020, according to *Nutrition Business Journal*; general health is up \$755 million; mental health/mood/stress is up \$268 million; sleep support is up \$243 million; and gut health is up \$167 million.

Starting with Stress

Prolonged, chronic stress can disrupt health on all fronts, with implications for energy, mood, focus, memory, weight, immune health, and more.

In December 2020, a Gallup poll noted that Americans' assessment of their mental health was worse than it had been at any point in the last two decades, with the percentage of U.S. adults

rating their mental health positively declining nine points from 2019.

Stress is now the top condition U.S. consumers are trying to manage, according to the Hartman Group. One-quarter (25%) of consumers in 16 major countries have increased levels of stress since the beginning of the pandemic, according to Ipsos' 2020 COVID-19 Poll; and half of U.S. Millennials report being more stressed, according to the Natural Marketing Institute.

Additionally, a January 2021 Harris Poll showed 80% of people said the pandemic is a significant source of stress in their lives, with 81% stressed about the future of America.

Globally, having good health and mental well-being is the number one driver of happiness, more so than consumers' relationship with their partner or family, according to Ipsos' Oct. 2020 Happiness Report.

While stress can wreak havoc internally, it can also reflect outwardly on appearance. For example, the stress hormone cortisol can trigger a cascade of inflammation that may manifest in unhealthy hair, skin and nails.

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Dynagenix[®] is a breakthrough new, water-soluble, neutral tasting *Boswellia*-based ingredient that will change the landscape of the active/sports nutrition market by offering a comprehensive solution to post-exercise recovery, while promoting the ability to perform at a higher level, sooner. Results point to a nearly 50% reduction in muscle soreness versus placebo with dramatic improvements in joint soreness and ease of exercising. The combination of clinically-demonstrated muscle and joint benefits is unique in the active/sports nutrition market.

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Weight Management

The “Quarantine 15”—referring to the pounds many have gained during lockdowns, isolation, and disruption of exercise routines—has left many people eager for natural and holistic solutions that can help them regain their sense of health and self.

Between stress-snacking and lack of activity, weight issues are compounded and have implications for energy, joint health, cardio-metabolic health and more.

In the U.S., 40% of those aged 18-24, one third of Millennials/Gen X, and one-quarter of Boomers have gained weight since COVID-19, according to the Natural Marketing Institute, spawning new opportunities for the weight loss category.

One-third of consumers in Japan, South Korea, China, and Russia reported under exercising during the pandemic last year; one-quarter in Canada, U.K., and Russia reported over-eating, according to Ipsos’ 2020 COVID-19 Poll across 16 major countries.

In 2020, the U.S. weight management market fell slightly to \$71 billion. Through 2021-2027, the China weight management market is projected to grow at a GAGR of 10.6% to reach \$92.6 billion; Asia-Pacific will top \$58 billion, per ReportLinker’s December 2020 Global-Weight Management Industry. The Japanese market will grow at a CAGR of 3.9%, Canada 6.3%, and Germany 4.5% through 2027.

According to a study published in the *Lancet* in 2019, 26% of adults in China are obese/overweight, 16% of children. In the U.S., 121 million consumers tried to lose weight in 2019, according to Mintel. In 2020, 14% of U.S. supplement users took a weight management supplement, 36% want more product options, per the Hartman Group’s 2020 Functional Foods & Beverages and Dietary Supplements.

Dollar sales of foods and beverages carrying a “lifestyle” diet claim grew 13% for the year ended Dec. 27, 2020, per IRI February 2021 innovation report. Sales of foods with a low-carbohydrate positioning reached \$136.9 million in the U.S.; ketogenic, \$68.5 million; paleo, \$56.9 million; the Whole 30 Diet, \$54.2 million; and low glycemic, \$19.3 million, according to IRI.

Fitness & Active Lifestyles

Exercise and fitness represent a large evolving market that has been reimagined amid gym closures and general consumers opting to workout at home. For example, Peloton sales basically doubled in 2020 compared to 2019.

As more consumers receive vaccines and have more opportunities to return to their lives, a new need for products that support active lifestyles may emerge again. For example, natural energy solutions that can help people regain motivation, alongside joint health and recovery formulations that can ease them back into exercise routines will be in high demand.

A Modern Energy Boost

The disruption of normal, active living has been taxing and depleting for energy levels. A lack of mental and physical energy can have significant negative effects on people, leading to chronic fatigue, burnout, and sleep disruption, which accumulates and compounds other health issues.

As people incorporate natural, sustaining solutions, the whole-body effects from increased physical energy to clearing of mental fog can lead to significant improvements in whole body health.

Beauty from Within

Aging and health have taken on new meaning for many consumers. At the same time, increased recognition that health begins from within and reflects outward has primed the market for nutricosmetics and ingestible beauty products.

Beauty supplement sales increased about 3% in 2020, according to *Nutrition Business Journal*, which predicted the market will reach \$1.6 billion in sales by 2023.

As consumers connect how they feel with how they look, crossover opportunities to target skin health alongside stress and cognitive health issues for example, will proliferate.

At the same time, consumers are looking for more information about the ingredients they put into and onto their bodies. Stories about sustainable and ethical sourcing will attract an engaged consumer base that is also closely evaluating labels for “clean” ingredients.

Overall, the scope and range of health needs among consumers have not only shifted, they are at an all-time high. Natural products and nutraceuticals that can meet the needs of the era stand to make a meaningful difference at a critical period in public health. **NW**





Starting with Stress: Brain Health, Focus & Mood in the Spotlight

Consumers are hungry for natural, holistic solutions with positive effects on brain health, focus and attention to address a range of stress-related health issues, as well as energy/sleep, mood, weight, immune health, skin health, and more.

People have been living through a stressful period, particularly frontline workers who have endured the most challenging health crisis in a century. The COVID-19 pandemic, alongside political, economic, and social upheaval, has had a ripple effect on public health, presenting a “significant source of stress” for an estimated 80% of Americans. In fact, stress is now the

top condition U.S. consumers are trying to prevent and/or treat, according to the Hartman Group.

Over the years, public health assessments that once focused solely on physical well-being have shifted to account for mental health as well. Research from HealthFocus International has found that U.S. consumers now rank mental/emotional health as the top contributor

to their overall health—ahead of physical health, balanced diet, and exercise.

Meanwhile, scientific understanding has improved regarding how chronic stress can lead to a range of detrimental effects while research into the benefits of nutritional products has progressed as well.

Stress, Energy & Cognitive Function

Stress, tiredness, and sleep problems are the top “Unresolved Afflictions” that are currently plaguing U.S. consumers, according to HealthFocus surveys. Unresolved Afflictions (from the HealthFocus International Health Condition Strategic Opportunity Quadrant) represents the most important consumer need area for new products with higher margins.

Starting with Stress: Brain Health, Focus & Mood in the Spotlight

These health issues are complex, and intertwined with others, including focus, memory, and general cognitive function. Consumers have long struggled with fatigue; and despite the countless energy products on the market, it still remains a top unmet need area. The problem of tiredness and lack of energy is not one-dimensional, but carries a physical, mental, and emotional component. In a busy and competitive world, consumers are under a great deal of stress and are seeking dietary help with relaxation, stress relief, emotional balance, and cognitive health.

HealthFocus also found the issues of tiredness, stress, and sleep problems to be drastically higher among younger consumers, signaling continued growth and higher future demand for products that can address these unmet needs.

Focus on Food & Supplements

Stress is at an all-time high, and more people are seeking solutions to help them feel better. There is a strong belief in the emotional impact of food, with six out of 10 U.S. consumers saying their food and beverage choices impact their mood. Nearly 30% of consumers specifically look for food and beverage products that can provide mood-boosting benefits, up more than 10 percentage points since 2018. Younger shoppers are fueling this “Mood Food” trend with over half saying they always or usually choose foods and beverages to help improve or enhance their mood.

HealthFocus sees the growing “Mood Food” trend as part of a bigger shift toward the use of “Kitchen Medicine.” An increased focus on immunity, along with the rising costs and concerns about the safety and efficacy of prescription drugs, has fueled a global resurgence of “food as medicine.”

Additionally, the majority of U.S. consumers believe certain foods, beverages, and ingredients have medicinal

benefits; and this trend is on the rise, with nearly 40% saying their belief has become stronger in the last two years. This strong belief in the healing power of food and dietary supplements is growing—most notably among young people (with four out of 10 finding it extremely believable)—and continues to drive consumer interest in functional ingredients.

An estimated 30-40% of supplement consumers use nutritional products to address concerns about stress, with concerns over a lack of energy close behind, according to a recent National Health Interview Survey (NHIS). This survey also found “wellness” was a much more common driver to supplement use than “treatment,” and approximately one in four supplement users reported feeling better emotionally as a result of their supplementation.

“The coronavirus pandemic has already precipitated a mental health crisis in the United States,” said Jeremy Appleton, ND, Director of Medical and Scientific Affairs at PLT Health Solutions. “Stress and mental fatigue are rising, and the country is ill-prepared to deal with the consequences. As far back as May, experts warned of a historic wave of mental health challenges. We need to use every tool and resource available to us to help people thrive in these challenging times.”

Optimal Ingredients

Several standard vitamins and minerals necessary for a wide range of health applications have, in several studies, shown themselves to have important neuro-protective benefits. Though some of the research is preliminary, deficiencies in key vitamins and minerals including the B complex, vitamin D, zinc, magnesium, and selenium appear to be correlated with lowered emotional states.

Of hundreds of mechanisms in the human body, magnesium is well known for its critical role in cognitive function, and its protective effect against depression. One of the most prominent studies on this examined magnesium

intakes of 8,894 adults and found that low magnesium intake placed people at a 22% greater risk of developing depression. Additionally, researchers cited notable correlations between treatment-resistant depression and magnesium deficiency (*Journal of the American Board of Family Medicine, 2015*).

The eight essential B vitamins that make up the vitamin B complex have been evaluated in several studies, which have provided evidence that each of the B vitamins plays a role in improving cognition and regulating nervous system response to mitigate stressors. B12 in particular helps metabolize both serotonin and melatonin more efficiently, signifying those deficiencies may have something to do with disruptions in mood or sleep patterns.

Vitamin D, a nutrient some researchers have claimed is widely deficient among people around the world, is hypothesized to play a role in neuroprotection, as well. Cross-comparisons between sunlight therapy and vitamin D, which is absorbed through a hormonal reaction in response to sunlight exposure, have examined and compared effects on seasonal affective disorder (SAD).

Zinc is a cofactor of hundreds of enzymes, many of which play a part in the neurotransmitter activity in the central nervous system. In depressed patients, low serum zinc is considered a possible biomarker for resistance to antidepressant drugs, and studies have found that supplements of zinc result in statistically significant improvements to sleep time, especially when combined with other nutrients.

There is a long list of herbs and botanicals that have been increasingly researched for mood and sleep benefits over the past several years, fueled in part by the demand for more clean-label, natural solutions.

Adaptogens, including maca, *Rhodiola rosea*, *Ginkgo biloba*, and ginseng, each contain unique phytochemicals specific to each plant, which enable those plants to survive harsh environmental stressors. These compounds are evidenced to

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STRESS GET IN
THE WAY.

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- Experiential
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- Clinically supported for safety and efficacy
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Support for stressful times.

Stress takes a toll on everyone it touches – contributing to health problems, poor relationships and lost productivity at work. It can also affect our ability to perform at our best.

Zembrin[®] is a patented, standardized and clinically studied extract of *Sceletium tortuosum*. It's an innovative, evidence-based ingredient for products designed to experientially support calmness, enhanced mood, and improved cognitive function.

Zembrin can help give people power over their lives by introducing a sense of alert serenity or calm focus. Clinically-studied, it has been shown to start working in as little as 2 hours and is safe enough to be used every day.

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modulate a number of hormonal and enzymatic processes in ways that clinical research suggests may improve human reactions to external stressors. One of the most notable features of these botanical products is their demonstrated propensity to lower cortisol, the primary stress hormone. Cortisol is also associated with increased blood pressure and weight gain.

Several other botanical ingredients contain antioxidant compounds that can pass through the blood-brain barrier; and others are shown to modulate certain inflammatory biomarkers. It is believed that these potent phytochemicals can improve mood by protecting the brain from free radicals and inflammation.

Many herbal/botanical ingredients with established benefits to mood often work at least in part by addressing inflammation, according to Appleton.

"Inflammation and mood are related by multiple mechanisms of action, ranging from the modulation of the gut-brain axis by the intestinal microbiota to bioactive enzymes and peptides," Appleton said. "Connections between mood and inflammation have been approached by formulators in specialty channels, like the healthcare practitioner channel, but to a large extent the complexity of these connections eludes product development

teams formulating for the larger consumer product goods space. This is partly owing to the difficulty in connecting inflammation and mood claims, which require different types of evidence and structure-function language."

Meanwhile, the consumer experience of a product is an important consideration in mood/stress and cognitive support, according to Steve Fink, Vice President of Marketing for PLT Health Solutions. "How do you know if your immune support product is working? Because when it's actually working for you, nothing happens. You don't get sick. You don't feel worse. But you also don't necessarily feel better. If you formulate a cognitive support ingredient into an immune product, you do feel better. This leads to a more positive reaction to the product, greater compliance, and often more success."

Among consumers PLT surveyed, Fink said 70% of people are expressing interest in adding cognitive support ingredients across a broad range of categories, signifying that as these types of ingredients are formulated in novel ways, they'll be well received.

Brands in several different categories can benefit from natural mood enhancer ingredients, Fink noted, in areas such as

sports nutrition and weight management in which consumers might take weeks or months to reach a nutritional goal. PLT's **Zembrin**[®], a *Sceletium tortuosum* extract, has been clinically demonstrated to improve cognitive function—specifically cognitive flexibility and executive function. Additional tests have shown reduction of stress and improvement of mood, manifested through statistically significant improved quality of sleep, less fatigue, enhanced work performance, enhanced interest in daily activities, and lower levels of irritability, worry and insecurity.

Meanwhile, PLT's **Rhodiolife**[®]-branded *Rhodiola rosea* extract has been shown to generate sustained energy and promote wellness, including psychological, emotional and physical conditioning, according to the company.

The company's **Synapsa** natural memory support is a patented, standardized form of *Bacopa monnieri* that has been the subject of more than 35 years of clinical study. While many cognitive health supplements focus on the issue of cognitive decline—mainly in an aging population—the studies behind **Synapsa**[®] focus on "peak cognitive performance" outcomes that offer benefits for a broader public.

Additionally, **Zynamite**[®] is a patent-pending proprietary *Mangifera indica* extract standardized to mangiferin and developed from sustainably harvested mango tree leaves. A patent-pending, self-affirmed GRAS ingredient, it has a portfolio of safety data and has been the subject of three preclinical and six clinical studies. The primary areas of application are as a standalone in cognitive health products where it provides mental energy, and as **Zynamite PX**[®] (in combination with quercetin) for active/sports nutrition products where the combination has been demonstrated to improve both peak power output and mean power output in fatigued and exhausted subjects. [NW](#)



New Opportunities Emerge in **Fitness & Weight Management**

Weight gain is on the rise and consumers are eager for natural products that can help.

With stress and cortisol levels through the roof, and restrictions on public gatherings throughout the pandemic, maintaining a healthy weight has become a significant challenge for consumers.

As a means of coping with chronic stress, many people often turn to processed foods. Compounded with a lack of physical activity, weight gain during

the pandemic has been common. In the U.S., 40% of those aged 18-24, one third of Millennials/Gen X, and one quarter of Boomers gained weight since COVID-19, according to the Natural Marketing Institute, spawning new opportunities for the weight loss category. Overall, the American Heart Association has estimated that 168 million people are overweight and 74 million are obese in the U.S.

Starting Block to Healthier Living

The implications of obesity on health and systems of care are burdensome. Obesity related health conditions like heart disease, stroke, type 2 diabetes, and certain types of cancer are some of the leading causes of preventable, premature death. The estimated annual medical cost of obesity in the U.S. was \$147 billion in 2008 U.S. dollars, according to CDC data.

Steve Fink, Vice President, Marketing, PLT Health Solutions, suggested that maintaining a healthy weight is “the single most important and effective thing that people can do—at any point in their lives—to live and age more healthfully. The evidence of the huge health conse-

“PLT has always worked to develop the highest quality scientific support on our weight management ingredients. The ingredients we introduce are backed by gold-standard, double-blind, placebo-controlled clinical trials and extensive preclinical work that examines safety and mechanisms of action, and are published in top-tier, peer-reviewed journals.” —**Steve Fink, PLT Health Solutions**

quences associated with an overweight/obese population is overwhelming. An unhealthy weight is the underlying or contributing cause to any number of chronic health conditions present in later years such as cardiovascular disease and diabetes and can exacerbate others like joint health.”

The human body is “hardwired by millions of years of evolution” to put on and maintain weight, Fink added. “At the same time, modern diets and living conditions make that easier and faster to do—in an unhealthier way. This inclination to gain and keep on weight is exacerbated by our emotional relationship to food. We eat for many other reasons than sustenance, including pleasure, stress, and more.”

A Sizeable Market

In 2020, the U.S. weight management market fell slightly to \$71 billion. Dollar sales of foods and beverages carrying a “lifestyle” diet claim grew 13% for the year ended Dec. 27, 2020, according to IRI data from February 2021. Sales of foods with a low-carbohydrate positioning reached \$136.9 million in the U.S.; ketogenic, \$68.5 million; paleo, \$56.9 million; the Whole 30 Diet, \$54.2 million; and low-glycemic, \$19.3 million, per IRI.

The COVID-19 pandemic has brought into clear focus the need to manage health conditions, and pivot to more holistic, integrative and preventive solutions.

Overall, consumers are ready for so-

lutions that may help them lose extra pounds and inches, keep them off, and/or balance a healthy weight. For the year ending April 2020, 43% of U.S. adults experimented with a dietary regimen: 10% intermittent fasting; 7% each the Whole30 diet or a juice/detox cleanse; 6% Weight Watchers; and 5% each the elimination, ketogenic, or paleo diet, according to the International Food Information Council’s (IFIC) 2020 Food and Health Survey. However, only 3% of those who try these diet plans stay on one plan exclusively, according to a 2019 study from the Hartman Group.

Tools for Healthy Living

Weight gain and obesity are linked to many conditions, like heart disease, diabetes, high blood pressure, osteoarthritis, sleep disorders, cancer, and more. As important as weight management is for the basic need to look and feel good, it’s integral to healthy living.

Dietary supplements can play a role within a broader regimen to help people lose pounds and maintain a healthy weight by targeting areas like metabolic rate, fat breakdown, appetite and satiety, and blood sugar management, but they should also be part of a healthy diet and exercise.

Clearly, whole foods and healthier eating need to be emphasized as the center of lifestyle management, noted Fink. “But there is an ‘all-hands-on-deck’ need in our society and supplements can play

an important role. We can’t afford to wait. There don’t appear to be any panaceas in weight management, but there are many, many things we can do to ‘get better every day.’ Proper use of supplements that have proven efficacy can be an important one of these.”

Leading weight management companies and brands often focus on the “whole person”—as opposed to just “dieting”—in developing weight management products and regimens, Fink noted. “We call this ‘smart weight management’ that, first, recommends diet and exercise as an integral part of weight management, and then addresses a range of concerns for the target demographic. For example, when developing a weight management product for seniors, it is important to consider issues like maintaining muscle mass and blood sugar management.”

Science & Solutions

A notable market shift has also been increased interest in, and reliance on, high quality science to back messaging and build trust with consumers.

“PLT has always worked to develop the highest quality scientific support on our weight management ingredients,” said Fink. “The ingredients we introduce are backed by gold-standard, double-blind, placebo-controlled clinical trials and extensive preclinical work that examines safety and mechanisms of action, and are published in top-tier, peer-reviewed journals.”



CONSUMERS TRUST THE #1 WEIGHT MANAGEMENT INGREDIENT IN THE WORLD



Gold-standard clinical trial on overweight men & women sets standards for communicating efficacy

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- Consistent results over 16-week study
- Statistically significant weight loss within 14 days
- Weight & inches reduction in both women & men
- Results seen in core: waist & hips
- Water-dispersible form available
- Twice a day, convenient low dose
- Patented

In a crowded weight management sector, results matter. In today's environment, consumers need to trust the products they buy. Trust the safety. Trust the science. And trust the performance.

SLENDACOR® Weight Management Complex is a patented combination of three spices with known uses in traditional medicine. The result is an ingredient that has been clinically-shown to significantly enhance weight loss and help re-shape the body. New Slendacor Weight Management Complex takes one of the world's most successful weight management ingredients and delivers it in a neutral tasting, water dispersible form. That means you can incorporate Slendacor in almost any product you want – from powders and shakes to chews and shots.

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“Ultimately, quality assurance and trust in a supplier centers around a thorough, all-around understanding about ingredients,” Fink added. “Today, we operate a program called **PLT360**® to achieve this. **PLT360** is a business-wide commitment by PLT Health Solutions to develop ingredients that our customers can be both confident and proud to supply to their own customers, knowing that these ingredients are safe, of high quality, efficacious, and harvested and manufactured in a sustainable way. Going beyond traditional quality control programs, **PLT360** examines every aspect of an ingredient that we supply in an effort to become transparent with our operations and build trust with the health and well-being community.”

Sustainability and efficacy are built into how PLT Health Solutions approaches quality, Fink added. “A 360° view means that we look at everything that impacts an ingredient and its viability in the marketplace. **PLT360** is a comprehensive view of the requirements and responsibilities we have to our customers (and their

customers) in supplying traceable, pure, high quality ingredients that meet market needs for performance and sustainability. Within each of the four subject areas of **PLT360**—ingredient identity, quality, sustainability and efficacy—again, we take a comprehensive view of our responsibility so that we can answer the questions that need to be answered.”

Often considered the lifeblood of healthy industries, innovation takes many forms in the dietary supplement and nutritional products market.

Clearly, weight management benefits have connections with other related categories, like active and sports nutrition. “We are seeing sports nutrition companies add weight management ingredients to existing formulations and expand their product lines to include weight management entries,” said Fink. “Another area would be weight management products for an older demographic. Whereas weight loss had always been a younger person market, people are realizing that one of the most important things they can do to age gracefully is to keep an eye on their weight.”

Additionally, one of the major changes in recent years has been a “proliferation of delivery systems for weight management ingredients and products,” Fink said. “We’re seeing a lot more beverages, foods, gummies and dissolvable powders. Both our **Slendacor**® and **Supresa**® ingredients have favorable organoleptics and are easy to formulate. In early 2020, PLT introduced a water-dispersible version of our award-winning and top-selling weight management solution, **Slendacor**. The new ingredient was developed over a two-year period specifically to meet the demand for compatibility with novel delivery forms.”

Supresa, a patented saffron extract, induces a feeling of well-being and stress reduction to address the source of stress-related overeating and snacking—a different mechanism of action for weight management from other weight management ingredients.

In a study conducted with 60 healthy, slightly overweight women (BMI 25-30) who were between 25-45 years old, **Supresa** intake over 8 weeks resulted in significantly greater body weight reduction than the placebo group. **Supresa** decreased snacking by 55% compared to a 28% reduction in the placebo group. A decrease in appetite of 69% was also observed in the **Supresa** group versus 54% in the placebo group. There were no reports of side effects and compliance with the **Supresa** regimen was excellent.

Slendacor Weight Management Complex® is a patented, synergistic formulation of three well-known spices—*Curcuma longa*, *Moringa oleifera* and *Murray koenigii*. Clinical study results show significant weight loss as early as 14 days after first use, which can offer some early positive reinforcement to a dieting consumer. Weight loss was consistent over the course of the 8-week study.

With more experts recognizing the role of cognitive support in long-term weight management programs, the company’s **Zembrin**® (*Sceltium tortuosum*) may help make the weight loss process more manageable for consumers. **NW**



Saving Energy: Brands Target Next Gen, Personalized Products

From dual and triple action formulas to natural and organic ingredients, success in the energy market is about more than loud packaging of the past.

From tired parents to frontline workers, energy solutions can meet a growing consumer health need. According to Mintel's latest Energy Drinks report, published May 2020, combined energy drink and energy shot sales now surpass \$14 bil-

lion, and sales are projected to reach \$20 billion by 2024.

SPINS data indicates that supplements marketed for energy have held steady in the 52 weeks ending Jan. 24, 2021, with the most growth posted in amino acids (up 5.3%), performance nu-

trition (up 6.6%), and the vitamins and minerals category (up 8.7%). While energy drinks have a dedicated consumer base, it's a moderate one. Mintel said habitual energy drink users represent less than half of U.S. consumers and, among non-users, the category suffers from a less-than-positive reputation.

According to the market research firm, many consumers perceive the category to be too sugary, too artificial, contain too much caffeine, and offer a poor taste profile.

Targeting Health Needs

To sustain growth for the long term, post-pandemic and beyond, brands and formulators in the energy space must be prepared to offer consumers energy solutions they need as they return to their everyday lives. This includes a cleaner ingredients panel, great taste, and a closer-to-nature formulation. The good news is that the market is already taking strides to appeal to a wider and varied consumer base.

Once targeted toward young people looking for a quick burst or jolt of energy, market dynamics have evolved and adapted to include a more mature audience searching for clean label products that deliver sustaining energy.

In addition to a maturing consumer base with different needs, cleaner trends in energy solutions have also stemmed from a consumer shift to healthier options overall. The impacts of the pandemic are also at play here, which have put the importance of maintaining one's health with better-for-you ingredients into sharp focus.

Meanwhile, the community of competitive video game players, or gamers, has burst into the mainstream in recent years.

Gamers might be the consumer du

jour, but the underlying takeaway is that brands must appeal to consumers' unique energy needs and experiences, said Steve Fink, Vice President of Marketing at PLT Health Solutions. "With traditional energy ingredients like caffeine, consumers want an experience that matches their need instead of the 'cup of coffee' experience," he explained. "The energy requirements of a person just waking up, studying late at night, or running a 10K race are all different."

To meet the needs of various consumers, PLT Health Solutions offers a line of **zumXR**® targeted release caffeine ingredients, including extended release and delayed release versions. The technology allows formulators to design their own custom energy profiles and deliver "predictable performance" to the consumer, Fink said. In the extended release format, specifically, the ingredient has been formulated to deliver no more than 55% of the total caffeine at one hour and no less than 80% at two hours.

Zynamite® from PLT Health Solutions is a patented, proprietary *Mangifera indica* extract standardized to mangiferin, developed from sustainably harvested mango leaves. According to Fink, the

ingredient has a portfolio of safety data and has been the subject of three pre-clinical and six clinical studies.

"The primary area of application is in cognitive health products where it provides mental energy," he said, since the role of **Zynamite** in mental energy is thought to be modulated through its ability to selectively inhibit an enzyme responsible for the inactivation of dopamine, norepinephrine, and epinephrine. "In addition, antioxidant and anti-inflammatory activities of mangiferin are also thought to play a role in its benefits related to mental energy," Fink added.

The Future is Bright

Looking ahead, the energy consumer will only become more savvy and discerning in terms of what they want from their supplement experiences. Brands that find success in this new landscape will see this as an opportunity, not a hurdle.

"Understanding more about that experience and delivering it in differentiated products will help the segment grow, say into weight management and sports nutrition, but also enhance market share in a competitive space," said Fink. **NW**



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Consumers Primed for Active Living Following Restrictions

The nutrition market will play an important role in supporting consumer needs as they pursue new activities.

Faced with a new set of health and lifestyle issues driven by COVID-19, consumers have increasingly adopted more holistic and active lifestyles to help manage their health and mental well-being.

Active consumers who integrate frequent physical exercise into their health regimens, alongside nutrition products, have become more common. By the end of 2020, the number of so-called “fit” con-

sumers in the U.S. were more than double those who considered themselves “athletes” (37% vs. 16%, per Mintel), and they will continue to drive the sports nutrition sector.

Six in 10 global consumers were committed to exercising more frequently in 2020, spawning new fitness trends and a demand for more aggressive sports nutrition, weight loss, and energizing foods and supplements. Home-centered ex-

ercise applications/product forms, more emphasis on seniors and at-risk exercisers, and a greater emphasis on exercise for kids/teens have all become important trends to watch. At the same time, as restrictions begin to ease, more people are seeking outdoor activities, or may be trying to shed a few extra pandemic pounds.

Supporting Mobility

Concerns about mobility have also escalated due to COVID-19, with consumers increasingly seeking dietary support for muscle, strength, healthy aging, and joint support, according to HealthFocus International.

Being in relative lockdown has made some more aware of mobility issues.

Lack of mobility and movement restriction caused by COVID are of special concern to the aging consumer. Sarcopenia, the age-related loss of lean body mass, strength, and function, is a prevalent concern among seniors globally.

Sarcopenia is now recognized as a disease by the World Health Organization and is preventable and reversible through nutrition and exercise. In the U.S., 45% of those over 65 years of age have some degree of sarcopenia; 20 million Japanese are sarcopenia patients; in China, 12% of women and 8% of men over 70 years are affected, according to Ipsos October 2020 Global Aging Study.

Asia has taken the lead in combating sarcopenia and has established specialized organizations to address the disease. Supplements that provide high quality protein in sufficient amount (20-30 grams per serving) can effectively target sarcopenia concerns; the opportunity is to call out the risk for this debilitating condition for consumers seeking solutions.

Nuanced Needs

With activity levels set to reach new heights, consumers are also going to greater lengths to learn more about the health benefits offered by nutrition products and are more discerning about the science behind what they buy.

At the same time, consumers have nuanced goals and needs depending on the type of sport or activity they're engaging in. As the market changes, and segments blur—such as bodybuilding, endurance, high-intensity interval training (HIIT), active-lifestylers, and weekend warriors—it is important for formulators to keep in mind how people use their products.

Goals can range from high-performance, maximizing protein, pre-workout, post-workout, recovery, and even condition-specific usage, such as joint health, skin health, immune health, and more.

"All are interested in muscle building, but to different extents," said Steve Fink, Vice President of Marketing for

PLT Health Solutions. "Endurance and strength are also significant muscle health benefits that consumers desire. Science shows us that good muscle health improves performance and serves as a foundation for a whole range of healthy states. Pre-workout, post-workout, and daily use products are those we typically see in the muscle health market. But we increasingly see a muscle health component in areas like weight management products where the goal is to increase lean muscle mass as a contributor to weight control. Finally, there is increasing interest on the part of seniors in sarcopenia where muscle health products can play a role in maintaining muscle mass."

Substantiating Results

Major market trends include clinically studied ingredients that offer rapid, consistent results, he added. "Other trends include offering novel delivery systems—from powders and capsules to beverages and foods. This will take a special class of ingredient. Finally, results must move the needle for consumers. Results are necessary for these audiences."

Like every other market, brands in the sports nutrition and muscle health space have been especially mindful of the lifestyle adaptations consumers have made during the COVID-19 pandemic. Fortunately, several surveys indicate that, across the board, rates of exercise among U.S. consumers haven't declined much, even with social distancing restrictions and quarantines. In fact, those who had relatively higher rates of exercise pre-COVID are exercising more now, along with a crop of newcomers to the sports nutrition space who emerged in 2020.

"Things did slow down during Q2 of the year. Then, as we have in other phases of our lives, the industry adjusted," said Fink. "We saw a significant uptick in new product development in the category and in the second half of 2020 and we are looking forward to some great new products coming onto the market in 2021."

PLT Health Solutions has introduced three new ingredients to address the needs of the active and sports nutrition markets, including **Zynamite PX**[®], **RipFACTOR**[®] (a botanical complex formulated for gains in endurance, strength, and muscle growth), and **Dynagenix**[®].

"Each of these ingredients was a step change solution for the industry," Fink noted. "Zynamite PX addressed mean and peak power issues in a low dose that clinical studies showed was effective in one hour. Dynagenix was targeted at the recovery segment of sports nutrition and is the first ingredient that is clinically demonstrated to improve both joint and muscle recovery, getting people back in the game faster."

The launches of all three products are going well, he continued. "RipFACTOR was featured in several significant new launches in Q4 of 2020 and is continuing to see strong growth in 2021. We are looking at the potential for millions of units featuring this product sold in 2021. For PLT, the lesson we learned is that, regardless of economic or market conditions, there is always room for truly innovative ingredient solutions that address pain points and deliver demonstrable, significantly better results. Disruptive solutions thrive in disruptive times."

Meanwhile the company's **AprèsFlex**[®], derived from *Boswellia serrata* gum resin and standardized to AKBA, is one of the world's best-selling joint health ingredients. Clinical studies conducted with **AprèsFlex** show dramatic improvements in joint comfort. A 2014 clinical trial with **AprèsFlex** showed significant improvement in joint comfort over in just 5 days.

Beyond joint comfort and flexibility improvements, **AprèsFlex** also positively impacts biological markers associated with joint health and inflammation, including TNF- α , CRP, and IL-6. It was also shown to significantly inhibit matrix metalloproteinase (MMP-3), an enzyme that breaks down cartilage, collagen, and connective tissues. **NW**



Nutricosmetics Reflect Wellness Inside-Out

Consumers understand health is beautiful and are benefitting from a range of innovative, modern product options.

Taking care of health and beauty from the inside out is increasingly well understood and becoming more common practice among consumers around the world.

“Topical skin care products address only 20% of your skin,” according to wellness expert Howard Murad, MD. “The other 80% is affected by what you eat and drink, including your dietary supplements.”

Beauty and personal care routines that encompass inner wellness and nutrition can greatly amplify appearance. Preventive care is often noticeable through skin, and more consumers recognize that taking care of skin earlier in life often equates to healthier skin throughout life.

One consumer study published in March 2019 found that more than 50% of 18-to-24 year old women wanted to add wrinkle-defying products into their routine. Many younger consumers view skin care as an investment, and they continue

to look for evidence-based products to meet their health needs.

Market Evolution & Expansion

As with other categories comprising the natural products industry, “beauty from within” is an entirely new landscape compared to what it was 20 years ago. Although nutricosmetics first hit the market as far back as the 1980s, it has experienced sizable growth in the past few years.

Today, global consumers are seeking a synergy in their routines, with ingestible products that can provide beauty benefits and improve skin health. According to Market Research Future, the nutricosmetics market is expected to sustain a CAGR of 5.51% to reach approximately \$8.35 billion by 2025. The report also showed that product formats other than traditional capsules, tablets and soft gels, including beverages, powders, gummies, etc., are big

sellers enjoying significant demand.

Innova Market Insights reported that the CAGR of new products launched with a skin health claim was 23% between 2017 and 2020. In fact, Innova included ingestible beauty in its Top Ten Trends of 2020, as consumers continue to recognize the significant roles that nutrition and natural ingredients can play within the body to support healthy hair, skin and nails, for example.

According to a 2020 *Nutrition Business Journal* report, the U.S. retail sales value of the beauty from within category is expected to grow 10.5% in 2021, up from 4.2% growth in 2020. Overall interest in holistic and integrative health has helped position ingestible beauty products for future expansion.

Top Trends

There’s an irony in this rapidly evolving market, according to Steve Fink, Vice President, Marketing, PLT Health Solutions. In some ways, he said, the cosmetics and beauty market hasn’t changed in 5,000 years; in other ways, it has changed dramatically since the beginning of 2020. Since early times of society, people always wanted to preserve youthful skin, and

therefore, reducing visual aging will remain a target for nutricosmetics.

“But, if you’ve seen the sales volumes for the traditional cosmetics markets since early 2020, not only hasn’t there been any growth, but sales are also dramatically lower. This is not the case in the nutricosmetics beauty market, which tends to focus on health as a driver more than just appearance.”

Products such as collagen boosters, ultra-hydrators, and brain-gut balancers are expected to shine as the most popular products in the beauty-from-within category. The COVID-19 pandemic has actually helped accelerate market growth, with consumer demand for skin health products that ease daily use of face masks, for example.

Indeed, such a dramatic global event that has drawn out for more than a year has impacted how consumers interact with brands and how they decide which products to use to stave off skin aging and promote skin health. The pandemic and restrictions escalated consumer demand for well-being and personal care products, in general, alongside nutricosmetics.

Brand owners and product manufacturers are ramping up to meet demand for ready-to-go options that are easier to use and more attractive to consumers, with an emergence of new innovative formats, including ready-to-drink (RTD) beverages, vials, droppers, gummies, and nutritional bars.

More consumers are also demanding sustainable and clean label nutricosmetics.

Important Ingredients

Nutritional ingredients for supporting youthful appearance and healthy skin provide more than just antioxidant protection or added plumpness—actions that are well performed by myriad topicals today. Indeed, dietary supplements can exert multiple benefits in convenient doses, which is highly attractive for consumers.

While the conversation about beauty has focused much attention on collagen, consumers are ready for a range of sci-

ence-supported nutritional options that target varying mechanisms, from UV protection to healthy hair.

For example, science has identified a number of factors that influence appearance and skin health, such as formation of advanced glycation end products (AGEs), free radical and singlet oxygen-induced lipid peroxidation, inflammation, fragmentation and degradation of collagen and elastin, gut microbiome modulation, immune health, stress, and more. Even regulating blood sugar levels can play a role in healthy skin.

At the same time, ingredients that target joint health and sports performance can double as beauty and wellness formulations. Collagen, MSM, hyaluronic acid, and herbal preparations can pull double duty helping joints/connective tissue and skin health.

PLT Health Solutions’ **ceratiq**® phytoceramides provide benefits associated with youthful skin—improved overall skin health, reduced appearance of wrinkles, increased elasticity, and a more radiant appearance, according to Fink. As a natural, vegan source of ceramides (a class of lipids known as the skin’s natural sealant) **ceratiq** is backed by five *in vitro* and *ex vivo* studies supporting safety, efficacy and mechanism of action, plus five human clinical trials.

A double-blind, placebo-controlled clinical trial evaluated the efficacy of **ceratiq** on skin hydration and on reduction of wrinkle appearance. Study subjects received either 350 mg of **ceratiq** oil or placebo for 12 weeks. In the **ceratiq** group, wrinkles were significantly and visibly reduced at 8 weeks compared to the placebo. The wrinkle reduction was visible for 88% of women after 12 weeks. “Skin was better hydrated as early as just 4 weeks. Compared to the placebo, those taking **ceratiq** had 3 times the improvement in wrinkle visibility, 2.75 times the improvement in facial hydration, and 5 times the improvement of radiance,” Fink reported.

“A 4-week time frame to efficacy is of critical importance in the supplement category as it looks to compete with

topical products which tend to be more experiential even as they may not offer as promising longer-term benefits,” he commented.

A 2020 study on **ceratiq** sought to broaden knowledge of the mechanism of action and introduce data on its effects on UVB-based skin damage. This study used a model that mimics the aging process because UVB light induces photoaging in the skin. The study yielded three key findings: 1) water evaporation from the skin was decreased, while skin moisture level and elasticity were improved, meaning that the degree of damage from the UVB exposure was attenuated; 2) skin lost less procollagen, hyaluronic acid, and ceramide with **ceratiq** intake; 3) collagen concentrations were also increased in the **ceratiq** group. The typical thickening of the epidermis layer that occurs with UVB exposure was minimized as well.

Cell culture experiments suggest that the increased hyaluronic acid and collagen seen with **ceratiq** is due to suppression of matrix metalloproteinase 1 (MMP-1), a protein that degrades these molecules.

Based on the research, Fink reported, **ceratiq** was recently approved for sale in the Republic of Korea with approved health claims. “A multi-year effort involving scientific and regulatory collaboration between PLT Health Solutions, ingredient innovator The Robertet Group (Grasse, France) and Korean distributor NOVAREX Co Ltd (Cheongju, Chungbuk, Korea) was behind the ingredient approval. The South Korean—K-Beauty—market is one of the most demanding in the world and one of the most influential,” he stated.

Ultimately, today’s middle-aged and older adults look (and act) far more youthful and vibrant than their predecessors did just 50 years ago. This is largely due to healthier lifestyles and understanding about the influence of nutrition and dietary supplementation. Modern wellness regimens reflect the mindset that clean living prolongs healthier lives, and that healthy skin is beautiful skin. **NW**