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EXPRESS PHARMA

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Market Trends

Beyond formulation: Why ingredient integrity defines nutra success

Regulatory Watch

Why clinical validation will decide the future of nutra brands

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Next-gen delivery systems are becoming a competitive edge in nutraceuticals

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Regulation in the right dose is good medicine

Increasing FSSAI scrutiny could turn out to be a blessing in disguise, as errant products and companies are weeded out

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The Food Safety and Standards Authority of India's recent crack down on major food brands for misleading health claims and labels should be a warning to nutraceutical brands.

In fact, FSSAI CEO Rajit Punhani's key message at the 50th meeting of the Central Advisory Committee (CAC) of FSSAI, was to fill vacancies and scale up enforcement, with a key focus on enforcement, surveillance and regulatory strengthening. One of the key issues discussed was strengthening implementation of labelling requirements for nutraceuticals and health supplements.

Munab Ali Beik, Head Compliance Advisory, Core Integra confirms that food safety inspectors have recently intensified the verification of food labels and packaging to ensure compliance with the Food Safety and Standards (Labelling and Display) Regulations, 2020 and subsequent amendments. During these inspections, several non-conformities have been observed across multiple brands, including those in the nutraceutical industry.

The common labelling deficiencies identified include inadequate or incomplete mandatory information on the label, label sizes not meeting the prescribed minimum requirements, missing batch numbers, "Use By" dates, or expiry dates, overwriting or alterations on the package or label, labels that are detachable from the food package, font sizes not complying with the prescribed requirements, missing or incomplete declarations on ingredients and food allergens. These non-conformities highlight the need for stricter compliance with the Food Safety and Standards (Labelling and Display) Regulations.

Nutraceutical manufacturers can take some cues from FSSAI's recent actions and work towards updating their labels and claims to be compliant with the latest amendments. FSSAI's increased scrutiny is in line with the its stance on ORS brands. *(Check: https://www.expressnutra.in/editors-note/fssais-ors-stance-should-caution-glp-1-nutrition-brands/452952)*

Will increased scrutiny dampen growth? Not likely. Various reports continue to stress the growth opportunities in the sector though they also warn of challenges.

For instance, a recent CareEdge Ratings report expects India's nutraceutical industry to grow with a 10-11 per cent CAGR till FY30, to reach $37–38 billion by 2026 and further expand to nearly $55–57 billion by 2030. As per stats from the Directorate General of Foreign Trade, India's export of nutraceuticals has grown from 3.68 billion in FY21 to 5.07 billion in FY25. Functional foods and beverages dominate India's nutraceutical market, accounting for ~70 per cent of consumption, while dietary supplements make up the remaining share.

The report flags challenges like an evolving regulatory system, lack of uniform regulation, gaps in scale up and manufacturing infrastructure, insufficient scientific evidence, and higher cost of the final product which limits their accessibility in lower-income populations.

India's nutraceutical sector is strategising to meet these challenges head on. Our cover story in the Express Nutra June-July 2026 edition, titled, Delivering the difference, analyses how nutraceutical companies are developing next-gen delivery systems and positioning them as a competitive edge.

The CareEdge Ratings report also points out that through innovation in product formats, from gummies and powders to ready-to-drink beverages, companies are developing convenient and appealing ways to deliver health benefits. These innovations are particularly effective in attracting younger consumers.

Increasing FSSAI scrutiny could turn out to be a blessing in disguise, as errant products and companies are weeded out. In the final analysis, it will increase consumer confidence in the nutraceutical sector. Thus regulation in the right dose is good medicine.

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Sustainability Enabler

Sanjaya Mariwala's recommendations to fix gaps in India's nutra sector

Even though India's nutraceuticals industry has many inherent advantages, it lacks a cohesive growth strategy. To fix this, **Sanjaya Mariwala,** Executive Chairman and Managing Director of OmniActive Health Technologies tells **Viveka Roychowdhury** that we need better regulatory coordination and adherence to internationally accepted standards, more investments to establish scientific substantiation, a complete farm-to-formulation process, increase awareness within the doctor community and build resilience against external supply chain disruptions

India has strong fundamentals in nutraceuticals, yet the sector is still evolving. What are the key structural gaps today, and how can a more data-driven policy approach—such as a comprehensive MoFPI study—help unlock its full potential?

India has a long history of using herbs and botanicals, providing the country with a strong raw material base for the development of our nutraceutical industry. Combined with increasing manufacturing capabilities and advances in science and technology, these strengths can help India to become a global leader in the field of nutraceuticals.

However, currently, the industry lacks a cohesive growth strategy. One of the biggest gaps is the absence of a comprehensive, data-backed view of the industry—its size, value chain strengths, export potential, innovation intensity and structural bottlenecks. An in-depth study conducted under MoFPI could fill this gap by building a comprehensive picture of the industry and identifying areas where India can build competitive advantages.

How important is regulatory clarity between FSSAI and CDSCO in building industry confidence, and what role do R&D, clinical validation, and global benchmarks like HS codes or a "Nutra Mark" play in strengthening India's position in international markets?

Since the field of nutraceuticals is an intersection of food, nutrition, and medicine, increased coordination between FSSAI and CDSCO will clarify regulatory procedures, facilitate compliance, and enable firms to invest with confidence in innovation to compete globally.

Additional measures include harmonisation of HSN codes, adherence to internationally accepted standards, and introduction of a trustworthy "Nutra Mark."

India's standing in the world will increasingly depend on scientific substantiation of its products. Those that are clinically proven are more likely to win the trust of regulators, medical professionals, and consumers around the globe. Additional measures include harmonisation of HSN codes, adherence to internationally accepted standards, and introduction of a trustworthy "Nutra Mark."

At OmniActive, this philosophy has been central to our growth. We invest nearly 10 per cent of our annual outlay in research and development, resulting in a portfolio of more than 127 patents, including 72 granted and 55 pending, 73 clinical studies, and several proprietary delivery technologies. Backed by this strong scientific foundation, our branded ingredients; Lutemax®, Capsimax®, and CurcuWIN®—have gained widespread acceptance among some of the world's leading nutrition companies.

Another area where we see significant potential is pet nutrition. As companion animal health receives greater attention globally, we have extended our CurcuWIN® technology to develop CurcuWIN® Paws for dog supplements. It is a natural extension of our research capabilities and reflects how clinically validated science can address emerging wellness needs beyond human nutrition. This demonstrates how strong research capabilities can create innovation across both human and companion animal nutrition.

There is increasing focus on building stronger agri-linkages, supporting MSMEs, and developing regional Centres of Excellence. How can these elements come together to create a more resilient,

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innovation-driven, and inclusive nutraceutical ecosystem?

India's natural biodiversity and agricultural strength provide a strong foundation for becoming a global nutraceutical powerhouse. However, this advantage can only be realised through better integration between agriculture, industry and research. Strong farm-to-industry linkages improve traceability, ensure consistent quality and create dependable supply chains for botanical ingredients, while enabling farmers to participate in higher-value markets.

But MSMEs need more access to modern technologies, testing facilities, and innovation opportunities. This is where regional Centres of Excellence can help by bringing together research organisations, academia, and the industry players under one roof.

For instance, at OmniActive, our backwards-integration sourcing system allows us to create a complete farm-to-formulation process by working together with the farmers growing marigold and paprika with scientific farming methods. This approach has worked well for farmers and the organisation.

As India moves towards a preventive healthcare model, what role can nutraceuticals realistically play, and how important is their integration into medical education and clinical practice?

It would not be accurate to consider nutraceuticals as alternatives to curative medicines; but these could play an effective role in filling nutritional gaps, ensuring good health and addressing risk factors related to lifestyle and age diseases. In a country like India, which faces problems of micro-nutrient deficiencies and metabolic diseases, prevention through proper nutrition assumes great significance.

In order to ensure that nutraceuticals are used properly as part of healthcare measures, there is a need to bring change in the medical profession alongside industry growth. The knowledge among doctors, dieticians, and other healthcare professionals about the role of nutraceuticals needs to improve.

In the context of the ongoing West Asia crisis and shifting global dynamics, how are supply chains, costs, and exports being impacted—and could this moment also present an opportunity for India to strengthen self-reliance and emerge as a stable global supplier?

The Strait of Hormuz is very important for India in terms of energy security and international trade, therefore any disruption will immediately result in increased transportation, fuel and insurance costs, delays and uncertainties for the exporter. It is clear that this will create additional pressure on costs, commitment of delivery dates and competitiveness.

However, in the case of the healthcare industry the major issue will not be obtaining supplies from West Asia, but the increasing costs and delays in transporting goods along the international trade routes. Situations like these also remind us why it is important to continue strengthening domestic manufacturing, investing in research and innovation, and building supply chains that are less vulnerable to external disruptions. These capabilities will not only make Indian companies more resilient but also reinforce India's reputation as a dependable supplier to global markets.

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Scientific validation, responsible sourcing, and sustainability will define industry leaders

Madhu Krishnamani, Founder, Botanic Healthcare in an interview with **Kalyani Sharma,** discusses the growing importance of quality systems in global markets, the shift towards clinically backed botanical ingredients, India's emergence as a science-led manufacturing hub, and the factors that will shape the future competitiveness of the sector

As regulatory requirements become more stringent across global markets, what does it take for botanical ingredient manufacturers to scale internationally while maintaining quality and compliance standards?

Botanic Healthcare has experienced remarkable global expansion in an increasingly regulated market, and I'd like to share some insights from our journey. One of the key inflection points in scaling internationally has been our unwavering commitment to quality and regulatory discipline. While there are thousands of botanical manufacturing plants worldwide, over 10,000 globally and as many as 3,000 in India, the number of companies truly delivering high-quality products is surprisingly small. Many manufacturers underestimate the importance of rigorous quality systems for botanical extracts, but we see this as essential for global acceptance.

Our process begins with identifying and mapping regions for sourcing the best raw materials, working closely with farming communities and NGOs to ensure quality from the ground up. Before raw materials even reach the production floor, we develop the necessary biochemistry for scaling and conduct thorough cleaning and testing. This approach requires substantial investment in advanced equipment, engineering expertise, and scientific knowledge, all contributing to our unique position in the market.

There is growing demand for clinically validated botanical ingredients. How is this changing the way manufacturers approach product development, research, and differentiation?

Today, consumers want functional, efficacy-based ingredients and clearer explanations of how products work in the body. We invest heavily in scientific research to demonstrate mechanisms of action and also study consumer behavior to anticipate future needs

The industry is shifting from generic botanical extracts to branded, clinically validated ingredients, and Botanic Healthcare is navigating this transition by prioritising clinical validation. Although we offer over 100 ingredients, our aim is to have at least 10 to 15 clinically validated products that meet market demand, particularly in areas like cognition, joint health, memory, and stress management.

For example, while chemical standardisation, such as a product with 95 per cent curcuminoids, is common, we go further by studying how the ingredient functions in the body and exploring additional phytochemical components that may influence efficacy. Innovative technologies, such as liposomal delivery, have enabled us to achieve comparable benefits with significantly lower doses, greatly improving bioavailability and effectiveness.

We back these ingredients with clinical trials and connect the research to the origin of our raw materials, recognising that environmental factors, such as soil and climate, can greatly affect plant behavior and efficacy. Investing in R&D to understand these regional differences is central to our long-term strategy.

India has traditionally been seen as a volume-driven supplier of nutraceutical ingredients. What is fundamentally changing in the ecosystem to reposition it as science-led manufacturing?

Today, consumers want functional, efficacy-based ingredients and clearer explanations of how products work in the body. We invest heavily in scientific research to

demonstrate mechanisms of action and also study consumer behavior to anticipate future needs. With the growing preference for lower dosages, easy-to-consume formats, and products suitable for functional beverages, gummies, and other applications, our focus is on maintaining efficacy while enhancing palatability and convenience.

This transformation requires continued R&D investment and innovation to meet changing expectations.

With increasing consolidation and competition, what will differentiate successful nutraceutical ingredient companies over the next five years?

As consumer behaviour evolves rapidly, companies must respond with credible, science-backed products to build lasting value and trust in the marketplace.

Sustainability is another cornerstone of our approach. We collaborate closely with farming communities and NGOs for responsible cultivation and support conservation efforts for endangered species. Our sourcing strategy is informed by both scientific research and environmental stewardship, ensuring that the raw materials we use are not only effective but sustainably sourced.

Ultimately, companies that integrate scientific validation, responsible sourcing, and sustainability will be best positioned to lead the industry into the future.

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Probiotics edge closer to mainstream clinical practice, but challenges remain

Dr Ratna Sudha, Founder and MD, Unique Biotech in an interview with **Kalyani Sharma,** discusses how growing demand for evidence-based probiotics is influencing product development, manufacturing standards, and market positioning

How is demand for clinically backed, strain-specific products changing R&D, manufacturing, and positioning?

The growing demand for clinically backed, strain-specific probiotic products is reshaping the industry in a very positive way. It has encouraged companies to move beyond generic probiotic claims and invest more deeply in scientific validation, strain characterisation, quality manufacturing, and evidence-based communication.

The biggest shift in R&D is fairly straightforward. When demand is for strain-specific, clinically backed products, science leads the design process rather than following it. A product is no longer built to fit a market gap with evidence added later. Clinical evidence comes first, and the product is built around it. The result is more robust products and a higher standard for what reaches consumers. It also ensures the claims made for each strain are supported by appropriate scientific evidence.

Manufacturing is equally critical with stringent quality systems, including dedicated manufacturing areas to prevent cross-contamination, controlled processing conditions, and rigorous testing at different stages of production. These measures help ensure that the strain remains pure, viable, stable, and effective throughout its stated shelf life.

From a positioning perspective, clinically validated, strain-specific products allow us to communicate with greater confidence and transparency. When a strain has been scientifically studied and manufactured under robust quality standards, the product can be positioned not merely as a wellness supplement, but as an evidence-based solution with clearly defined benefits.

In today's market, consumers, healthcare professionals, and regulators are increasingly looking for products that can substantiate what they claim.

What is driving India's probiotic momentum and what needs to happen for sustainable scale?

India's probiotic momentum is majorly being driven by 2 shifts. While one is consumer-led, the other is structural one shifting the demand from curative to preventive healthcare.

Consumers today are more informed and are beginning to understand that the benefits of probiotics are not limited to digestion alone, but may also extend to areas such as immunity, metabolic health, women's health, paediatric health, and general wellness.

With urbanisation, dietary changes, stress, antibiotic exposure, and lifestyle-related health concerns becoming more common, people are actively looking for safe, natural, and scientifically supported solutions that can be incorporated into daily life. This has created strong interest in probiotic and synbiotic products across different dosage forms, age groups, and health needs.

For sustainable scale, however, the industry must continue to invest in science, quality, and consumer education. Probiotic products must

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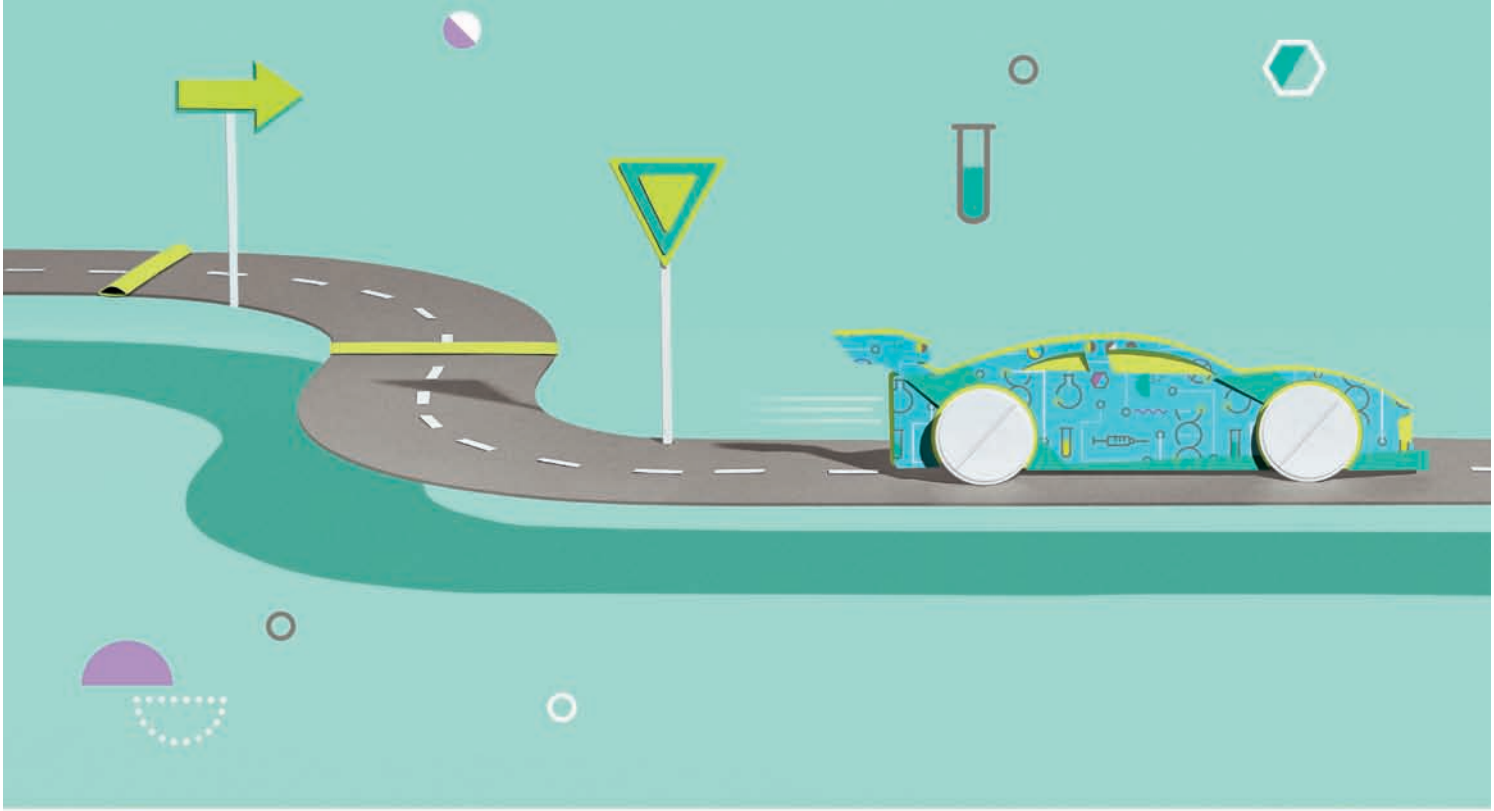

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be developed around well-characterised, strain-specific ingredients with evidence supporting their safety, stability, and efficacy. Manufacturing standards must ensure viability, purity, consistency, and shelf-life stability, especially in a climate like India's where temperature and humidity can be challenging.

Sustainable growth will also require responsible communication. Claims should be evidence-based, transparent, and easy for consumers and healthcare professionals to understand. At the same time, continued innovation is essential to meet evolving consumer expectations, whether through child-friendly formats, convenient daily supplements, functional foods, or condition-specific probiotic solutions.

India has strong potential to become a major probiotic market, but long-term success will depend on building trust through science, quality, regulatory compliance, and meaningful innovation.

Are probiotics moving into mainstream clinical practice or is there still significant work to do?

Probiotics are certainly moving closer to mainstream clinical practice, but there is still significant work to be done. In 25 years of probiotic research and development, I've witnessed clinical conversations around probiotics change substantially.There was a time when presenting strain-specific data to a physician was unusual. The expectation was that any probiotic recommendation would be generic. That has shifted. Gastroenterologists and immunologists who follow the research now ask about the clinical evidence behind a specific strain, the dose, and the indication. That level of specificity reflects real progress.

Beyond gastrointestinal health, there is growing scientific interest in the role of probiotics in immunity, women's health, paediatric health, metabolic health, renal health, bone health, and even mental well-being through the gut–brain axis. This reflects a broader shift in healthcare from treatment alone to prevention and long-term wellness. Probiotics, through their ability to support and modulate the gut microbiota and influence immune and metabolic pathways, fit well into this preventive healthcare approach.

However, wider clinical adoption will require continued education of physicians and healthcare professionals on the importance of clinically documented strains and formulations. It is also important to build awareness around the role of probiotics in restoring disturbed gut microbiota, especially after antibiotic use, illness, dietary imbalance, or other lifestyle-related disruptions.

For sustainable scale, however, the industry must continue to invest in science, quality, and consumer education. Probiotic products must be developed around well-characterised, strain-specific ingredients with evidence supporting their safety, stability, and efficacy

How has global demand evolved and what differences exist between Indian and overseas markets?

The key difference between Indian and overseas markets lies in consumer awareness, product formats, regulatory maturity, and category development. In several international markets, probiotics are already positioned across diverse health areas such as digestive health, immunity, women's health, paediatric health, metabolic wellness, and general preventive care. Consumers are also more accustomed to the idea of taking probiotics regularly, not only during illness or after antibiotic use.

In India, the category is growing rapidly, but it is still at a relatively early stage. Probiotic fortification in foods and beverages remains limited, creating significant scope for innovation in functional foods, dairy and non-dairy beverages, child-friendly formats, and condition-specific probiotic products. There is also a need to build greater consumer understanding around the daily intake of probiotics for preventive health and long-term wellness.

At present, many Indian consumers still associate probiotics mainly with digestion, diarrhoea, or antibiotic use. The broader role of probiotics in supporting gut microbiota balance, immunity, metabolic health, and overall well-being is not yet fully understood. This presents both a challenge and an opportunity for the industry.

The regulatory framework in India is still evolving and remains relatively stringent, particularly around claims, strain documentation, labelling, and permissible formats. While this can create challenges for product development and communication, it also encourages responsible innovation and helps ensure that only scientifically supported, quality-driven products reach the consumer.

Overall, global markets show how far the probiotic category can expand when science, regulation, innovation, and consumer awareness move together. India has strong growth potential, but sustainable expansion will depend on evidence-based products, wider format innovation, clearer consumer education, and a regulatory environment that supports both safety and responsible category growth.

How important is scientific differentiation in building long-term credibility and partnerships?

Scientific differentiation is the only kind that compounds. Marketing runs on budget cycles and attention spans that shift. Science does not. A published study adds to the record. A replicated outcome deepens it. The record only builds. That is why investing in evidence makes sense even before the market is asking for it.

At Unique Biotech, that conviction shaped the operating model from the start. Strains were developed in-house. Clinical outcomes were funded, studied, and put on the record. The evidence behind Bacillus coagulans Unique IS-2 alone runs to over 22 published studies. That record was built before the market was asking for it, which is exactly why it holds up now that the market is.

The partnerships that last are built on this foundation. A partner without strain-level data may work short-term. But the regulatory environment is tightening. Clinicians are prescribing with more specificity. Consumers are reading past the label. The only answer that holds in all of those conversations is evidence.

Marketing erodes. Science accumulates. Credibility is built in the lab and proven in the clinic. Everything else is packaging.

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Why evidence-backed nutrition is India's next big opportunity: Akshay Pai, Founder and CEO, Nutrova

Akshay Pai, Founder and CEO, Nutrova, reflects on the industry's evolution, the growing demand for evidence-backed nutrition, and why trust, scientific validation, and measurable outcomes will define the next phase of growth. He also shares his perspective on India's unique opportunity to become a global leader in nutra innovation, driven by its diverse population, expanding wellness consciousness, and potential to generate globally relevant health data, in an exlusive interaction with **Lakshmipriya Nair**

When you started Nutrova, supplements were still a niche category in India. Today, wellness is mainstream. What has surprised you most about this evolution? While nutritional supplements and nutraceuticals have been around in India for decades, but largely limited to clinical use, driven by healthcare practitioners. These products add value in three specific uses cases – correcting acute deficiencies (like Iron or Vitamin D3), filling in dietary gaps (e.g. protein in vegetarian diets) and optimising outcomes towards specific health and performance goals.

What has been particularly surprising is how quickly consumers have embraced the optimisation category, especially post-COVID. Rather than first adopting supplements primarily to address deficiencies or dietary gaps, many consumers have directly started exploring ways to improve

health, appearance and performance. That shift has accelerated the mainstream adoption of nutraceuticals far beyond what we would have expected a decade ago.

If you look at the nutraceutical industry today, what are the biggest myths that still need to be challenged?

One prevailing myth is that nutraceuticals operate in a regulatory vacuum in India, which is not the case. India has a defined regulatory framework for nutraceuticals under the FSSAI. Like any evolving industry, compliance and enforcement can continue to improve, but the category is far more structured than many consumers assume.

From a consumer's perspective, one myth that comes in the way of maximising the benefits of nutraceuticals is treating any supplement as a magic pill that does its job in a single course. Nutraceuticals provide our body with foundational nutrients that add the most value when taken consistently over time.

What separates a nutraceutical brand that will endure for 20 years from one that is simply riding the current wellness wave?

We see a gap in data on nutraceutical interventions on Indian populations, which needs to be addressed. India is a very heterogenous population across genetics, diets and socioeconomic conditions, far more than many other countries.

In our view, brands that can demonstrate measurable outcomes in specific populations and use cases, while earning consumer trust through quality and transparency, will be the ones that endure. That has also been our approach at Nutrova since our inception.

What emerging trends in nutrition and wellness do you believe are currently underestimated by the industry?

There is a popular quote – calories determine your weight, macronutrients determine how you look and micronutrients determine how you feel.

The conversation, and scale, in this category is largely driven by protein and the very real gap in Indian diets. In our view, the impact of micronutrients and other

India has the opportunity to be a pioneer in nutraceuticals globally. Our genetic and dietary diversity creates a unique opportunity to drive innovation at scale, improving consumer outcomes and public health while generating data with global relevance

foundational nutrients on optimising health is underestimated. These nutrients are often viewed purely through the lens of deficiency correction, when they can also play a significant role in supporting specific health outcomes.

However, there admittedly needs to be more data in the Indian context to drive consumer awareness, and that is something the industry needs to invest in collectively.

If you were building Nutrova from scratch in 2026 instead of 2013, what would you do differently?

In our experience, the value of demonstrating measurable outcomes has far more value than any marketing push. If we were starting from scratch today, I would focus on a narrow use case, either an outcome or a specific population, and invest heavily in generating clinical evidence around it.

While we have done this consistently at Nutrova, it took us a few years to fully appreciate how important evidence generation can be in building long-term consumer trust and differentiation.

Five years from now, what do you hope the Indian nutraceutical ecosystem will be known for globally?

India has the opportunity to be a pioneer in nutraceuticals globally. Our genetic and dietary diversity creates a unique opportunity to drive innovation at scale, improving consumer outcomes and public health while generating data with global relevance.

World-class infrastructure across the nutraceutical value chain already exists in India. The industry and regulators can leverage this foundation, along with growing consumer interest in wellness, to build an ecosystem that fosters innovation, entrepreneurship, scientific validation and improved health outcomes at a massive scale.

What is one contrarian belief you hold about the future of the nutraceutical industry that most people in the sector would disagree with?

Many people believe awareness is the industry's biggest challenge. I believe trust is.

Tomorrow's consumer is going to demand credible reasons to trust a brand, and the industry will have to provide them. This will require a shift from broad product claims and generalised offerings towards ingredient- and dose-specific solutions for distinct health outcomes.

We are already seeing signs of this in categories like omega-3 and dietary fibre, where the ingredient and dose can be optimised based on the outcome being targeted. The future of the nutraceutical industry will require moving away from a one-size-fits-all approach towards solutions backed by evidence, transparency and measurable outcomes.

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One of the biggest challenges in the nutraceutical industry is separating science from marketing

Suryansh Kumar, Founder and CEO, Elevate Now, speaks with **Kalyani Sharma** about the evolving landscape of obesity management in India, the growing emphasis on evidence-based metabolic healthcare, and the role of nutraceuticals within clinically supervised weight management programmes

Obesity management is increasingly being viewed as a chronic disease intervention rather than a lifestyle issue. How is this shift influencing the role of nutraceuticals within doctor-led weight management programmes?

The recognition of obesity as a chronic disease by the World Health Organization marked an important shift in how we think about weight management. India is also gradually moving in this direction, and rightly so. Obesity is rarely just about lifestyle choices; it is often driven by underlying metabolic imbalances such as insulin resistance, hormonal dysfunction, nutrient deficiencies, inflammation, and poor gut health.

In this context, nutraceuticals play a supportive role within doctor-led obesity care. They are not magic solutions for weight loss, but when used appropriately, they can help address specific deficiencies, improve metabolic function, support gut health, and enhance overall treatment outcomes.

At Elevate Now, we treat obesity as a metabolic disease rather than simply a weight problem. As a result, we've seen users achieve a 22.6 per cent reduction in fasting insulin, 10.4 per cent reduction in HbA1c, 12.8 per cent reduction in fasting glucose, 30.8 per cent reduction in ALT liver enzyme levels, 20.2per cent reduction in triglycerides, and 14.8per cent reduction in LDL cholesterol.These outcomes demonstrate that the goal is not just weight loss, but meaningful improvements in overall metabolic health. The future of obesity management lies in personalised, medically supervised interventions where nutraceuticals complement clinical care rather than replace it.

Clinically meaningful interventions are backed by evidence, measurable health outcomes, and are used within a personalised treatment framework. The real test isn't how compelling the claim is, but whether it can consistently improve patient outcomes in the real world

The Indian nutraceutical industry has witnessed a surge in products targeting weight loss, gut health, and metabolic wellness. In your view, what separates clinically meaningful nutritional interventions from products driven primarily by marketing claims?

Having worked in this space for over four years and helped transform 50,000+ lives, I believe one of the biggest challenges in the nutraceutical industry is separating science from marketing. While there are some genuinely effective products in the market, many offerings are still gimmicky in nature, built around trends and consumer appeal rather than solving real metabolic health problems.

Clinically meaningful interventions are backed by evidence, measurable health outcomes, and are used within a personalised treatment framework. The real test isn't how compelling the claim is, but whether it can consistently improve patient outcomes in the real world.

This gap between what is marketed and what actually works is something I feel strongly about. In fact, we are currently undertaking a comprehensive study to better understand where existing solutions are falling short and to identify the unmet needs in obesity and metabolic health management and build solutions that address the real gaps rather than simply add to the noise. As the industry matures, greater transparency, stronger scientific standards, and outcome-driven innovation will be critical to earning long-term consumer trust.

As personalised healthcare gains traction, how do you see the future of customised nutrition, supplements, and

nutraceutical formulations evolving for individuals with obesity, insulin resistance, and other metabolic disorders?
The term "personalised nutrition" is often used too loosely. In reality, creating a completely unique solution for every individual is neither practical nor always necessary. The future lies in cohort-based personalisation, where interventions are tailored to groups of people who share similar metabolic characteristics, risk factors, and health goals.

Over the last four years, we've identified distinct cohorts within the Indian population, such as those struggling with insulin resistance, emotional eating, PMOS-related weight gain, fatty liver, or metabolic dysfunction. While these individuals may require different interventions, many share common biological patterns that can be addressed through targeted nutrition, supplementation, and clinical protocols.

The next generation of nutraceuticals will move away from one-size-fits-all products and toward evidence-based formulations designed for specific metabolic cohorts. For a diverse country like India, this approach is far more effective than importing generic global solutions. The opportunity lies in combining clinical data, metabolic insights, and population-level learnings to deliver interventions that are both scalable and genuinely personalised.

Many consumers continue to seek quick-fix solutions for weight loss. What responsibility do health-tech platforms, nutraceutical companies, and healthcare professionals have in promoting sustainable, evidence-based outcomes over short-term results?
Health-tech platforms, nutraceutical companies, and healthcare professionals have a responsibility not only to educate consumers but also to move the conversation away from quick fixes and towards sustainable health outcomes. Obesity is a chronic disease, and treating it as a short-term problem often does more harm than good.

Consumers need to understand that lasting weight loss comes from identifying and addressing the root cause of weight gain, whether it's insulin resistance, hormonal imbalances, metabolic dysfunction, or other underlying conditions. Quick-fix solutions may deliver temporary results, but they rarely solve the problem. Our responsibility as an industry is to promote evidence-based interventions that improve metabolic health and help people achieve results they can sustain for life.

What are the biggest gaps you currently see in India's obesity and metabolic health ecosystem, and where can nutraceutical innovation play a more significant role in prevention and long-term disease management?

One of the biggest gaps in India's obesity and metabolic health ecosystem is long-term obesity management. While awareness around obesity treatment has improved significantly, maintaining outcomes long term remains a challenge. Many people can lose weight, but sustaining those results and preventing relapse is where the real battle lies.

From a user perspective, we've found that many people are more comfortable addressing underlying metabolic health issues through nutrition, supplementation, and lifestyle interventions than relying solely on weight-loss drugs. While obesity medications are an important advancement, they are often viewed as a treatment phase rather than a lifelong solution.

Because users ultimately dictate the direction of the market, I believe medical innovation will play a much larger role in prevention, metabolic health, and long-term maintenance rather than in claiming to cure or reverse obesity. The opportunity lies in building evidence-based solutions that complement medical interventions and help individuals maintain healthier outcomes over the long term.

Looking ahead, how do you expect the relationship between clinicians, nutrition experts, digital health platforms, and nutraceutical manufacturers to evolve in creating solutions for weight management and metabolic health?
I believe the future of obesity care will be far more integrated and holistic than it is today. No single stakeholder, whether it's clinicians, nutrition experts, digital health platforms, or nutraceutical manufacturers can solve the problem alone. Sustainable weight loss and long-term metabolic health require all of these players to work together within a single ecosystem.

Clinicians will guide treatment, nutrition experts will drive behavioural and dietary change, digital health platforms will enable continuous monitoring and engagement, and nutraceuticals will play an important supportive role throughout the journey. The greatest value for users will come from bringing these pieces together into a holistic, personalised care model that focuses not just on weight loss, but on lifelong metabolic health.

India is seeing growing interest in GLP-1 therapies and medical weight-loss interventions. How do you see nutraceuticals positioning themselves alongside these therapies, and what opportunities does this create for the nutrition and wellness industry?
The conversation around GLP-1 therapies is often framed as nutraceuticals versus medications, but I don't think that's how the future will evolve. From a user perspective, many people are comfortable using medical interventions to achieve initial outcomes, but they are equally focused on maintaining those outcomes and improving their overall metabolic health over the long term.

This is where nutraceuticals can play a meaningful complementary role. GLP-1 therapies are powerful tools, but they work best as part of a broader care ecosystem that includes nutrition, lifestyle support, and targeted supplementation. In many cases, nutraceuticals can help support nutritional status, metabolic health, and long-term adherence throughout the treatment journey.

I believe one of the most exciting opportunities ahead is the emergence of medical-grade nutraceuticals. Much like the evolution we've seen in obesity medications, there is significant room for innovation in scientifically validated formulations designed to work alongside clinical interventions. Rather than competing with GLP-1 therapies, the next generation of nutraceuticals will likely become an important supportive layer before, during, and after treatment, creating substantial opportunities for the nutrition and wellness industry.

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Science earns trust, while branding helps scale it

As the nutraceutical industry shifts toward evidence-based health solutions, science-backed ingredients, advanced delivery technologies, and regulatory readiness are becoming critical differentiators. **Hardeep Arora,** Head – Sales, LLS (India, Middle East, and Emerging Markets)- Pharma &Nutra business, Lubrizol, shares insights on the trends shaping the next generation of nutraceutical products and brands in an exclusive interview with **Swati Rana**

How are science-backed ingredients helping nutraceutical brands build greater consumer trust and regulatory credibility?

Science-backed ingredients with clinical validation, human trials, and published data are becoming essential in the nutraceutical industry. By enhancing consumer confidence and enabling clinically proven, evidence-based claims, they reduce regulatory risk and provide brands the ability to position products as premium and effective. They also offer the leeway to make structure/function claims with greater confidence. Science is transforming the nutraceutical industry and shifting the narrative from wellness to health.

Why are bioavailability and advanced delivery technologies becoming critical differentiators in nutraceuticals?

A major challenge in nutraceuticals is the gap between efficacy and absorption. Curcumin, CoQ10, omega-3 and cannabinoids are among many nutraceuticals with poor solubility or rapid degradation. Delivery technologies such as microencapsulation, liposomal systems, and solid dispersions are improving absorption rates, accelerating onset of action, and enhancing dose efficiency. Today, differentiation is increasingly determined not just by the ingredient itself, but by how effectively the body can absorb it.

How does microencapsulation improve stability, taste masking, and formulation consistency?

Microencapsulation is a core technology in the development of modern nutraceutical formulations. It protects heat-, oxygen-, and moisture-sensitive ingredients while improving product stability. It can also mask the bitter taste of plant extracts, minerals, amino acids, and other active compounds. Furthermore, it enables controlled release and targeted delivery while preventing ingredient interactions in complex formulations. As a result, it is extremely valuable in overcoming challenges associated with incorporating difficult active ingredients into functional foods and beverages.

The brands that succeed in this new era will combine scientific validation, advanced delivery technologies, consumer-centric formats, and regulatory readiness to create products that deliver both measurable outcomes and meaningful consumer experiences

What are the biggest formulation challenges in functional foods and beverages today?

Developers of functional foods and beverages face multiple challenges. These include balancing efficacy with palatability, maintaining ingredient stability during processing, improving solubility, extending shelf life, and delivering clinically relevant doses. In addition, regulatory restrictions around ingredients and claims, coupled with growing demand for clean-label products, add complexity. The core challenge is delivering pharmaceutical-like efficacy in food-like products.

How can ingredient innovation help improve both efficacy and customer experience?

Ingredient innovation today must satisfy both efficacy and consumer experience requirements. The development of bio-enhanced extracts, standardised actives, and targeted ingredient blends can significantly improve product performance. At the same time, innovations that enhance taste, dissolvability, texture, and mouthfeel contribute to a superior user experience. The most successful products are those that deliver measurable benefits while remaining enjoyable to consume.

How are advanced delivery platforms helping brands move beyond traditional tablets and capsules?

Consumers are increasingly gravitating toward convenient and experience-driven formats beyond traditional tablets and capsules. Gummies, effervescent powders, beverages, shots, strips, sachets, stick packs, and functional foods are among the formats gaining popularity. These delivery platforms improve compliance, create additional consumption occasions, and integrate more naturally into everyday lifestyles. Nutraceuticals are evolving into consumer products rather than simply supplements.

How are sports nutrition and active lifestyle categories driving innovation in delivery formats?

Sports nutrition and active lifestyle products continue to be major drivers of innovation in nutraceutical delivery systems. Athletes and health-conscious consumers seek on-the-go convenience, rapid absorption, and personalised nutrition solutions. This has accelerated innovation in hydration powders, ready-to-drink functional beverages, protein snacks, electrolyte gummies, and recovery shots. Consumers increasingly expect convenient, real-time solutions that fit seamlessly into active lifestyles.

What opportunities do you see in emerging segments like nutricosmetics and beauty-from-within products?

Nutricosmetics and beauty-from-within products represent one of the industry's most promising growth opportunities. Growth is being fuelled by the shift from topical beauty treatments to ingestible wellness solutions, rising interest in preventive health, and the influence of social media. Key opportunities include products targeting skin microbiome health, anti-ageing, hair and nail health, and personalised beauty nutrition. The category sits at the intersection of wellness, beauty, and self-care.

How important is compliance-ready product development for nutraceutical brands looking to scale globally?

Compliance is fundamental to global growth. Ingredient approvals, labelling requirements, claims substantiation, safety documentation, and varying regulatory frameworks across markets can create significant challenges. Developing products with compliance in mind from the outset helps accelerate market entry, reduce regulatory risks, and support international expansion. Leading nutraceutical brands increasingly view compliance readiness as a core strategic capability rather than a regulatory obligation.

How is Lubrizol helping brands balance innovation, scalability, and regulatory expectations?

Lubrizol supports brands through advanced ingredient technologies, including bioavailability-enhanced actives and innovative delivery systems. We also help address formulation challenges related to solubility, stability, taste masking, and application development across beverages, gummies, powders, and other formats. Through regulatory support, compliance-ready documentation, and manufacturing-compatible solutions, we help brands navigate the trade-offs between innovation, scalability, and regulatory requirements. We see ourselves as both an innovation partner and an enabler of growth.

What will define the next generation of successful nutraceutical brands — branding or formulation science?

The next generation of successful nutraceutical brands will require both formulation science and branding, although each serves a different purpose. Formulation science provides the foundation through proven efficacy, bioavailability, and product differentiation. Branding and storytelling create competitive advantage by building trust, educating consumers, and establishing lifestyle relevance.

Science earns trust, while branding helps scale it. The most successful brands will be those that combine strong scientific foundations with effective consumer communication.

The nutraceutical industry is experiencing a fundamental shift from ingredients to problem solving, from supplements to experiences, and from marketing claims to clinical proof. The brands that succeed in this new era will combine scientific validation, advanced delivery technologies, consumer-centric formats, and regulatory readiness to create products that deliver both measurable outcomes and meaningful consumer experiences.

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The future of nutrition is digital, personalised and predictive

Rising lifestyle diseases, greater consumer awareness, personalised nutrition, innovative delivery formats and evidence-based formulations are reshaping the nutraceutical sector.At the same time, manufacturers are investing in advanced R&D, digital technologies and globally compliant manufacturing practices to strengthen India's position in international markets. In an exclusive interaction **Gajanan Patil,** COO, H&H Healthcare, shares his views on the industry's growth trajectory, emerging opportunities, manufacturing challenges and the road ahead with **Swati Rana**

India's nutra market is expanding rapidly. What factors are driving this growth beyond the post-pandemic wellness trend?

India's nutraceutical expansion is no longer a temporary trend—it is structurally inevitable. The days of panic-buying immunity boosters are over. Today, we are witnessing a permanent shift towards preventive, data-informed daily wellness. Chronic lifestyle diseases such as diabetes and cardiovascular disorders are rising sharply, and consumers are increasingly realising that managing health proactively is far more affordable and effective than reactive hospitalisation.

At H&H Healthcare, we view this as a multi-decade transformation. Building genuine consumer trust through clinical credibility and science-backed products will be critical to sustaining long-term growth.

Which nutra categories do you believe will witness the fastest growth over the next five years?

The market is rapidly moving away from generic, one-size-fits-all multivitamins. Consumers are looking for targeted, outcome-driven solutions. While immunity has become a baseline expectation, the next wave of growth will be led by specialised categories such as gut health through advanced prebiotics, probiotics and microbiome science; cognitive wellness products addressing stress, sleep and focus; lifecycle nutrition, particularly women's health and maternal care; and clean-label sports nutrition for everyday fitness enthusiasts rather than just professional athletes.

We are actively shifting our portfolio towards these high-intent, condition-specific products such as protein powder manufacturing for Herbalife,TWT for Mosaic, Creatine and yeast protein for SUPERYOU, A2Z women for Alkem, Sleep tab for Dr. Morepen.

The next phase of growth will belong to companies willing to invest in human clinical trials, ingredient standardisation and outcome-based research

How important are formulation innovation and delivery formats—gummies, effervescent tablets, sachets, oral strips and ready-to-drink beverages—in market differentiation today?

Formulation is no longer just a backend R&D function—it has become a primary strategic differentiator.

You can design the most effective supplement in the world, but if it tastes unpleasant or is difficult to swallow, consumers simply won't continue taking it. Pill fatigue is real, and consumer compliance increasingly depends on convenience and experience.

Formats such as zero-sugar gummies, fast-dissolving effervescent tablets, single-serve sachets, stick packs and ready-to-drink beverages are becoming significant growth drivers. Our focus is to achieve the right balance between delivering clinically effective doses of active ingredients while maintaining excellent taste, stability and shelf life. We have also invested in infrastructure to manufacture sachets, stick packs and effervescent tablets.

Are Indian nutra companies investing enough in R&D and evidence-based formulations?

Let's be honest—as an industry, India has historically underinvested in deep scientific validation compared to global benchmarks. We cannot build a world-class nutraceutical industry on borrowed data and generic health claims.

The next phase of growth will belong to companies willing to invest in human clinical trials, ingredient standardisation and outcome-based research. At H&H Healthcare, we are putting our resources behind evidence-backed innovation because future market leadership will be determined by scientific

credibility rather than marketing claims.

What role does contract development and manufacturing (CDMO) play in accelerating innovation in the nutra sector?
Contract Development and Manufacturing Organisations (CDMOs) have evolved from being simple third-party manufacturers into critical innovation partners.

Launching a new product once took 12 to 18 months. Today, a strategic CDMO partner can take a unique formulation from concept to commercialisation in a fraction of that time without compromising quality or safety.

We combine our in-house R&D capabilities with specialised manufacturing expertise to achieve faster scale-up, greater flexibility and consistent product quality. We also have a dedicated formulation and analytical development facility in Indore.

What are the biggest manufacturing challenges in nutra today?
The biggest manufacturing challenge today is not creating capacity but maintaining consistency and global-quality standards at scale.Scaling production from a 10 kg laboratory batch to a two-tonne commercial batch introduces significant complexities. Natural extracts vary depending on soil and weather conditions, yet manufacturers must ensure consistent levels of active ingredients in every batch.

Other challenges include maintaining the stability of advanced dosage formats and managing supply-chain disruptions affecting premium imported ingredients. At H&H Healthcare, these challenges are addressed through automated quality systems, real-time batch testing and a zero-compromise approach to manufacturing excellence.

How critical is traceability of ingredients in building trust with consumers and global buyers?
Traceability is no longer a luxury or merely a marketing buzzword—it has become a licence to operate.

Consumers and regulators increasingly want complete transparency regarding ingredient sourcing. In export markets such as the US and Europe, digital traceability has become an essential regulatory requirement.

We ensure end-to-end visibility across our supply chain—from raw material sourcing to the finished product. We also work with customers requiring clean-label products and globally recognised certification standards.

What steps are necessary for Indian nutra products to gain stronger acceptance in regulated export markets?
India has a tremendous opportunity to become a global nutraceutical hub, but success will not come by competing solely on price.

Indian companies must align with stringent international standards such as USFDA and EFSA requirements, maintain impeccable documentation and consistently deliver high-quality products batch after batch. We have proactively invested in internationally recognised certifications, including SEDEX, NSF, BRC and USFDA registration, ensuring compliance from the very beginning.

Do you expect stricter regulatory oversight from FSSAI in the coming years?
Absolutely, and we welcome it.

Stricter oversight and regulatory enforcement are necessary for the industry's long-term credibility. Stronger regulations eliminate non-compliant players and improve consumer confidence in nutraceutical products. For quality-focused companies like H&H Healthcare, regulatory maturity represents a significant competitive advantage rather than a business challenge.

How are AI, data analytics and digital health platforms influencing product development in nutra?
The future of nutrition is digital, personalised and predictive.

Consumers are gradually moving away from purchasing generic supplements. Instead, wearable devices, at-home diagnostics, DNA testing and blood biomarkers will increasingly determine individual nutritional requirements.

Artificial intelligence will analyse this health data to recommend personalised supplementation programmes. At H&H Healthcare, we are studying how digital health intelligence can be integrated into our formulation pipeline while continuing to digitise our manufacturing processes for defect-free production.

What major shifts do you foresee in the nutra industry by 2030?
By 2030, the nutraceutical landscape will be dramatically different.

Personalisation will become the norm, with customised nutritional solutions tailored to individual biometrics. Products lacking robust clinical validation will struggle to compete, while digital ecosystems integrating wearable devices, health applications and nutrition recommendations will become commonplace.

Consumers will increasingly demand clean-label formulations, complete ingredient transparency and environmentally sustainable packaging. The industry will evolve from price-driven competition to a science-led health ecosystem.

If you had to identify one untapped opportunity in the nutra sector today, what would it be?
The greatest untapped opportunity lies at the intersection of personalised data, digital diagnostics and modern Ayurvedic science.

India possesses centuries of traditional botanical knowledge. By combining scientifically validated ingredients such as Ashwagandha, Turmeric and Brahmi with modern extraction technologies and clinical research, Indian companies can create globally differentiated nutraceutical products.

This convergence of traditional wisdom and modern science is where H&H Healthcare is focusing its long-term strategic efforts.

Finally, what is your long-term vision for building globally competitive nutra manufacturing from India?
India must move beyond being recognised simply as a low-cost manufacturing destination. Instead, we need to establish ourselves as a high-value global innovation hub.

Achieving this requires sustained investments in research and development, world-class manufacturing facilities and complete alignment with international regulatory standards.

Our vision at H&H Healthcare is to build globally competitive, deeply researched and science-backed health solutions that position India as one of the world's most trusted destinations for preventive healthcare.

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DELIVERING THE DIFFERENCE

Next-gen delivery systems are becoming a competitive edge in nutraceuticals

Why oral strips are redefining nutraceutical delivery

As the nutraceutical industry shifts its focus from simply developing effective ingredients to improving how those ingredients are delivered, oral thin films are emerging as one of the most promising dosage formats. Combining convenience with the potential for enhanced bioavailability and consumer compliance, oral strips exemplify how delivery innovation is reshaping product development and consumer experience writes **Swati Rana**

For years, the nutraceutical industry competed primarily on the strength of its ingredients. Companies invested heavily in clinical research, novel botanical extracts, superior manufacturing processes and scientifically validated bioactives, believing that better ingredients would naturally translate into better health outcomes.

Today, however, the industry's priorities are evolving. As consumers seek products that are easier to consume, better absorbed and seamlessly integrated into their daily routines, manufacturers are increasingly recognising that delivery technologies can be just as important as the ingredients themselves.

This shift has fuelled innovation across dosage formats. Traditional tablets and capsules are now being complemented by gummies, oral melts, sachets, ready-to-drink beverages, functional foods and advanced delivery systems such as liposomes, phytosomes, nanoemulsions and

If India can build leadership in areas such as oral strips, microencapsulation, phytosome technologies and other advanced delivery systems, it can move beyond being primarily an ingredient supplier and become a creator of high-value nutritional solutions

SANJAYA MARIWALA
Executive Chairman and MD, OmniActive Health Technologies

We will see oral strips dominating categories that require rapid onset or high compliance, including sleep support, energy, paediatric nutrition and personalised wellness

SANDEEP GUPTA
CEO, ENAC; and Chief Founder & Director, Nutraworks Consulting Group

Oral mouth-dissolving films enable nutrients to be absorbed directly into the blood plasma, bypassing the harsh digestive environment of the gastrointestinal tract

ARUN KEDIA
MD, VAV Life Sciences

microencapsulation. Each addresses a different consumer need, but among these innovations, oral strips have emerged as one of the most promising formats for improving convenience, compliance and, where scientifically appropriate, nutrient delivery.

According to Sanjaya Mariwala, Executive Chairman and Managing Director, OmniActive Health Technologies, for many years, competition was all about ingredients. In the coming years, it will be all about the experience of consumers. "As ingredients become increasingly commoditised, delivery formats will emerge as one of the key differentiators for nutraceutical brands," he says.

Mariwala points out that poor adherence remains one of the biggest barriers to achieving health outcomes, a challenge that extends beyond pharmaceuticals into preventive nutrition.

"No matter how effective an ingredient may be, it is useless if people stop taking it after just a few weeks of use," he says. "Delivery formats play an increasingly important role precisely because of this challenge."

Efficacy or convenience

Consumer expectations have also changed dramatically. Today's buyers are looking for products that fit effortlessly into busy lifestyles without compromising efficacy or convenience. Oral strips respond directly to these expectations by eliminating the need for water, offering greater portability and providing a discreet dosage form that can be consumed anytime and anywhere.

Compared with tablets and capsules, oral strips are easier to consume for children, elderly individuals and those who experience difficulty swallowing conventional dosage forms. Unlike powders, they require no preparation, while compared to gummies they offer greater dosing precision without relying on high sugar content or confectionery-style formulations.

From a scientific perspective, oral strips also offer a fundamentally different route of nutrient delivery.

Arun Kedia, Investor and Mentor, Meru Life, explains that the buccal cavity provides a unique physiological advantage for selected nutraceutical ingredients.

He adds, "Oral mouth-dissolving films enable nutrients to be absorbed directly into the blood plasma, bypassing the harsh digestive environment of the gastrointestinal tract. By avoiding exposure to gastric acids and first-pass metabolism in the liver, certain nutrients can reach systemic circulation more efficiently than through conventional oral dosage forms. This is particularly relevant for ingredients that are unstable in acidic conditions or exhibit poor gastrointestinal absorption."

Kedia believes this improved delivery efficiency can offer multiple formulation benefits.

"Since the pH in the mouth is neutral, nutrients are absorbed very quickly and efficiently," he says. "Doses can be lowered, eliminating toxicity effects and reducing metabolic load. Oral strips also use far less excipient per dose compared with traditional finished dosage forms."

These characteristics are especially valuable for consumers requiring long-term nutritional support. By simplifying administration, oral strips have the potential to improve long-term compliance-an outcome that may ultimately prove just as important as bioavailability itself.

Delivery challenges

However, Mariwala cautions against viewing oral strips as a universal solution. He stresses that while the format offers significant advantages, its suitability depends entirely on the ingredient being delivered.

"Oral strips are not a one-size-fits-all solution," he says. "Whether they are the right choice depends on the ingredient, the dosage required and the ability of the format to maintain stability and efficacy. Convenience alone cannot be the deciding factor. The format must also be right for the ingredient and the health outcome it is meant to support."

He further explains, "This distinction is important because oral strips are best suited for ingredients that deliver desired benefits at relatively low doses. Vitamins such as B12 and D, vitamin C, melatonin, adaptogens and selected botanical extracts are increasingly finding applications within oral thin films because they can be incorporated without compromising product performance. Conversely, ingredients such as calcium, magnesium, proteins and dietary fibre-which require gram-level daily intake-remain difficult to formulate into thin films because of the limited loading capacity available within the dosage form."

Kedia agrees that dose limitation remains one of the format's primary technical constraints. "Oral mouth-dissolving films are quite versatile and can be used for virtually all nutraceutical ingredients within the dose limitation of around 30 mg per dose," he says. "Nutrients with higher therapeutic doses can still be delivered using lipidic nanoparticulate forms."

Fortunately, advances in formulation science are steadily expanding these boundaries.

Rather than relying solely on conventional film technologies, manufacturers are increasingly combining oral strips with innovations such as liposomal encapsulation, microencapsulation and advanced polymer systems. These technologies improve ingredient stability, enable higher loading efficiencies and maintain rapid dissolution characteristics without compromising consumer experience.

The evolution of oral strips is also being driven by significant advances in formulation science and manufacturing technologies. Unlike tablets, where larger quantities of active ingredients can be accommodated relatively easily, oral strips require formulators to work within a much smaller surface area without compromising stability, flexibility or rapid disintegration. This has transformed formulation into one of the most critical aspects of oral strip development.

According to Mariwala, manufacturers are increasingly leveraging innovative polymers, multilayer film structures and microencapsulation technologies to overcome these challenges.

"In contrast to tablets, oral strips have less area to accommodate active components. The challenge lies in incorporating the required amount of active ingredient without making the strip fragile and unstable or affecting its ability to dissolve quickly," he explains. "To counter these drawbacks, formulators are now opting for innovative films, unique polymers, microencapsulation techniques and multilayer structures."

Industry's transition

For Kedia, one of the most important developments has been the industry's transition towards newer film-forming materials.

"The use of Hydroxypropyl Methylcellulose (HPMC) instead of conventional animal-derived gelatin allows for more stable products due to a tighter matrix, greater predictability of properties and vegan label claims, without the usual BSE/TSE risks associated with animal-origin excipients," he says.

He also points to improvements in coating and spraying technologies that enable manufacturers to produce thinner, more uniform films with greater consistency. At the same time, liposomal nanoencapsulation has emerged as a transformative innovation.

"Liposomal nanoencapsulation allows a significant reduction in therapeutic doses, which is important for oral strips because they have a physical limit of around 30 mg per dose," Kedia notes.

New regulatory considerations

However, innovation in delivery technologies also brings new regulatory considerations.

According to Sandeep Gupta, Director & CEO, Expert Nutraceutical Advocacy Council (ENAC), and Chief Founder & Director, Nutraworks Consulting Group, companies often assume that launching a product in a novel dosage form creates an entirely different regulatory pathway. That assumption, he says, is misplaced.

"The absolute first thing companies must realise is that a novel format does not bypass established safety and standard rules," Gupta says. "The core regulatory hurdle isn't just the format-it's the integrity of the active ingredients within that format."

Manufacturers must continue to comply with Food Safety and Standards Authority of India (FSSAI) regulations governing approved ingredients, Recommended Dietary Allowance (RDA) limits and scientifically substantiated health claims. Since oral strips can alter the way nutrients are absorbed, developers must also evaluate safety from the perspective of enhanced bioavailability rather than relying solely on conventional dosage assumptions.

Gupta believes regulatory frameworks are gradually adapting to these technological advances, although some lag is inevitable.

"There is always a natural lag, but the bridge is narrowing," he says. "Current frameworks are robust for evaluating what goes into the product, but they are still evolving when it comes to how it is delivered."

As delivery systems such as oral strips, nanoemulsions and sustained-release films become more sophisticated, regulators may increasingly need to consider how enhanced absorption influences existing dosage recommendations without compromising consumer safety.

Gupta also believes brands should communicate responsibly. "Build your brand on the bedrock of authenticity," he advises. "Do not over-promise fast therapeutic miracles just because it's an oral strip. Educate your consumer transparently on why this format works better for their lifestyle, backed by genuine compliance."

Looking ahead, experts believe oral strips fit naturally within the broader transformation taking place across the nutraceutical industry.

Advances in artificial intelligence, wearable health devices, biomarker testing and digital health platforms are steadily moving nutrition towards personalised wellness programmes tailored to an individual's lifestyle, metabolic profile and health objectives.

Mariwala believes delivery formats will play an increasingly important role in enabling this transition. "The next generation of nutraceutical products may look quite different from current products," he says. "Consumers may perform home health assessments, receive recommendations via digital platforms and follow evolving nutrition programmes. In such circumstances, oral strips become highly relevant not only as a delivery system, but also as a way to provide individualised nutrition."

Gupta shares a similarly optimistic outlook for the category. "Over the next five years, oral strips will transition from a 'novelty, niche format' to a mainstream lifestyle staple."

He predicts, "Consumers-especially the younger demographic-want convenience, discretion and experiential consumption. We will see oral strips dominating categories that require rapid onset or high compliance, including sleep support, energy, paediatric nutrition and personalised wellness."

The road ahead

For companies planning to enter the category, Gupta recommends focusing on three priorities: science-backed formulation, an excellent consumer experience and transparent communication.

"Do not compromise on ingredient quality and clinical validation," he says. "Perfect taste masking and mouthfeel because consumers won't come back if the experience is poor. Above all, build trust through honest labelling and evidence-based claims."

For India, experts believe this evolution represents a strategic opportunity that extends well beyond domestic market growth.

Mariwala points out that India has already established itself as a global supplier of nutraceutical ingredients, botanical extracts and scientific research. The next phase of value creation, he believes, will come from mastering advanced delivery technologies.

"If India can build leadership in areas such as oral strips, microencapsulation, phytosome technologies and other advanced delivery systems, it can move beyond being primarily an ingredient supplier and become a creator of high-value nutritional solutions," he says.

Kedia agrees that India's manufacturing ecosystem is well placed to capitalise on this opportunity. Compared with many conventional dosage forms, oral strip manufacturing requires relatively lower capital investment, offers predictable manufacturing quality and supports flexible production runs for customised nutritional products.

Ultimately, oral strips are not simply another dosage form competing with tablets, capsules or gummies. Rather, they reflect a broader shift taking place across the nutraceutical industry-one where consumer experience, scientific delivery and personalised nutrition are becoming as important as the ingredients themselves.

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Drink it, eat it: Nutrition's new formats

What began as a search for the next big ingredient has evolved into a race to master how nutrition reaches the body. As RTD beverages and functional foods gain ground, they are prompting companies to rethink formulation, stability and consumer compliance. In the process, they are driving innovation in delivery technologies and redefining how nutraceutical products are designed, trusted and differentiated, writes **Kalyani Sharma**

The ingredient has stopped being the whole pitch. A strong actives list used to be enough to build a nutraceutical brand around; it no longer is. As India's supplement market scales, format has become as commercially decisive as the ingredient inside it, and four formulators across the category, working in Ready-to-Drink (RTD) beverages, functional foods, precision delivery science, and Ayurveda, are converging on the same idea from different directions.

RTD fits around the day more naturally. They taste better, need no preparation, and tend to become habits in a way powders and capsules rarely do

DR M RATNA SUDHA
Founder and MD,
Unique Biotech

Building a nutraceutical product isn't as simple as adding a bioactive and expecting it to deliver benefits; it's closer to conducting an orchestra, where the ingredient, clinical dose, food matrix, processing conditions, packaging, and shelf life all need to work in harmony

DR RATNA UPADHYAY
Sr Manager R&D,
OZiva

Solving for a consumer who won't comply

Dr M Ratna Sudha, Founder and MD, Unique Biotech, traces the RTD boom back to a simple shift in how people live. "Life has shifted from routine to hustle, and with it has come a demand for supplements that fit into daily activity rather than overlap it," she says.

"Traditional formats like capsules, tablets, and sachets require a conscious act. You need to remember, measure, mix. For younger consumers especially, that extra step registers as friction. They expect nutrition to slot into daily life the way everything else does. RTD removes that entirely."

On compliance specifically, she is direct, "Pill fatigue is real and widely documented. Daily supplement routines are easier to start than they are to keep. Tablets especially carry a clinical feel that never quite shakes off. RTD fits around the day more naturally. They taste better, need no preparation, and tend to become habits in a way powders and capsules rarely do."

Dr Ratna Upadhyay, Sr Manager R&D, OZiva, arrives at the same consumer behaviour from the food side, and roots it in a harder number. "Noncommunicable diseases (NCDs) killed at least 43 million people in 2021, equivalent to 75 per cent of non-pandemic-related deaths globally, and 18 million of those deaths occurred before age 70. Consumers are connecting the dots between daily lifestyle choices and that burden, and would rather not find out the hard way, or pay the hospital bill that comes with finding out late."

What makes functional food an easier sell in India specifically, she adds, is that "food-as-medicine is also a culturally familiar idea here, so functional foods feel less like a new behaviour and more like an extension of what people already eat."

Dr Sudha sees the same forgiving quality at work in RTD. "In India, the format works across age groups in a way few others do. A palatable beverage suits a child. An on-the-go format suits a working adult. Easy consumption matters for older adults who find tablets difficult. The reach that e-commerce and quick commerce have built across the country means access is no longer limited to metros."

Her summary of why compliance beats a lab-sheet efficacy argument: "People take what fits into their day. The format a person stays with is the one that works."

The formulation bench

Getting a nutrient to survive its new format is where the real technical fight is happening, and each formulator describes a different version of the same problem.

Dr Sudha starts with the chemistry. "Ingredient stability in an aqueous environment is a spectrum, not a wall. Some actives, vitamins and minerals for instance, dissolve readily in water, which is why functional hydration products have existed for years. The more interesting formulation territory opens up with sensitive actives, probiotics, omega-3s, and certain botanicals that are not naturally suited to a liquid medium."

On probiotics, which she considers the most technically rich area of RTD formulation, "Maintaining live cell viability in a liquid format has pushed the field toward genuinely elegant solutions. Spore-forming strains like Bacillus carry a natural structural advantage. Their dormant spore state allows them to survive processing conditions and reach the consumer intact."

Arpan Talwar, Director, Ayurnomics, frames the same absorption problem from the ingredient's point of view rather than the format's. "A high dose alone does not necessarily translate into superior outcomes. Factors such as ingredient quality, extraction methods, standardisation, formulation design, synergistic combinations, and delivery technology collectively determine how effectively a nutraceutical performs."

On botanicals in particular, "Many plant-derived bioactives naturally exhibit poor absorption, limited stability, or rapid metabolism. Through intelligent formulation, these limitations can be addressed without compromising ingredient integrity"

The future of nutraceuticals is no longer about introducing hundreds of new ingredients. It is about making existing ingredients work better through intelligent formulation

ARPAN TALWAR
Director,
Ayurnomics

You can put a herb in a gummy, a strip, a sachet. The harder question is whether what is on the label is actually in the bottle, batch after batch

SARGAM DHAWAN BHAYANA
Director,
Planet Herbs Lifesciences

Dr Sudha describes the same shift from the manufacturing floor, "Most of the meaningful progress in RTD formulation has been in protective delivery. Microencapsulation is now standard practice for a range of sensitive actives. It creates a physical barrier between the ingredient and the surrounding medium, reducing degradation significantly. Liposomal delivery goes further, using phospholipid structures to improve both stability and bioavailability for poorly soluble actives like curcumin, CoQ10, and fat-soluble vitamins."

Dr Upadhyay's version of the same difficulty shows up on the food side, where taste and texture cannot be engineered away. "Building a nutraceutical product isn't as simple as adding a bioactive and expecting it to deliver benefits; it's closer to conducting an orchestra, where the ingredient, clinical dose, food matrix, processing conditions, packaging, and shelf life all need to work in harmony."

Working with botanicals specifically, she says, "Synthetic vitamins and minerals tend to be neutral in taste, colour, and behaviour. Botanicals come with their own personality, bitter, astringent, pigmented, hygroscopic, and naturally variable from harvest to harvest. Formulating with them is less like working with standardised Lego blocks and more like working with natural wood, every piece behaves a little differently and demands its own craftsmanship."

Dr Sudha's taste-masking brief for RTD runs parallel, "Minerals, amino acids, and botanical extracts carry an off-taste that requires careful attention. Balancing palatability without heavy sugar or artificial sweeteners is where clean-label innovation comes into its own."

Chasing the right dose, not just the trending one

For Dr Upadhyay, the harder fight is not chemical but commercial. "There's also constant tension between a 'trending dose' and an 'effective dose.' Commercially, it's easier to include a small, label-friendly amount. Scientifically, consumers only benefit when the dose is clinically meaningful."

Dr Sudha sees the same pressure reshaping how brands talk about clean label. "The premium is no longer in the claim. It is in the execution."

And Talwar's answer to where that discipline eventually has to lead is blunt: "The future of nutraceuticals is no longer about introducing hundreds of new ingredients. It is about making existing ingredients work better through intelligent formulation."

Nutraceutical companies, he argues, "must move beyond simply formulating products and instead engineer complete nutritional solutions."

What earns trust in a crowded category

Sargam Dhawan Bhayana, Director, Planet Herbs Lifesciences, brings the conversation

back to basics. "There is a lot of excitement about delivery in our category right now, and I understand why. What I keep coming back to, though, is that Ayurveda has been working on this for centuries. We just called it something else. A medicated oil that carries actives through the skin into an aching joint. Drops you take under the tongue. Anupana, the idea that what you take a formulation with changes how your body absorbs it. That is bioavailability. We had the practice long before we had the word."

Her own priority, though, sits away from format altogether, "So my own focus is less on the newest format and more on getting the basics right. You can put a herb in a gummy, a strip, a sachet. The harder question is whether what is on the label is actually in the bottle, batch after batch. That is a manufacturing problem before it is an innovation one, and it is where pharmaceutical-grade standards matter more than any clever delivery system. In a category this crowded, the format is not what earns trust. The product working, every time, is."

Dr Upadhyay reaches a similar conclusion from the claims side of the business. Every claim at OZiva, she says, has to be "driven by scientific evidence rather than marketing trends," backed by "randomised, double-blind, placebo-controlled (RCT) studies," with the "active ingredient used in the study" matching "the ingredient used in the product."

But the step she considers most neglected industry-wide is simply saying it honestly. "Translate the science into plain, honest language, no exaggeration, no overreach. Explain the 'why' behind the benefit, not just the benefit itself."

Dr Sudha lands on nearly the same point from the regulatory side of RTD, "Clinical evidence is becoming the differentiator."

Where the category is heading

On where formats go from here, none of the four expect one to replace another. Dr Sudha's read is that specialisation, not consolidation, defines the next phase. "The future is segmentation. Functional beverages for daily maintenance and prevention. Traditional formats for targeted, therapeutic, and clinical use. The formats will become more specialised rather than one replacing the other."

Bhayana's closing thought works almost as an answer to that same question, delivered from the opposite end of the industry's history. Ayurveda, in her telling, was never chasing a format at all. It was solving the same absorption problem the RTD and functional food industries are solving now, just without the vocabulary science later gave it.

Between Dr Sudha's compliance argument, Dr Upadhyay's food-as-prevention case, Talwar's insistence on engineering existing ingredients rather than chasing new ones, and Bhayana's refusal to let format substitute for manufacturing discipline, the shape of the next phase of this industry is already visible.

The format race is real, and worth investing in. But every one of these formulators arrives at the same commercial truth from a different direction: delivery gets the product to the consumer. It does not replace the requirement that the product actually works, batch after batch, claim after claim.

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From shelf appeal to strategy shift

What began with the industry's format rethink has evolved into a strategic opportunity for the nutraceutical industry. As Semisolid and chewable delivery forms gain prominence, they are prompting companies to rethink formulation, manufacturing and product development. In the process, they are driving innovation in delivery technologies, improving consumer compliance and redefining how wellness products are designed and differentiated, writes **Neha Aathavale**

For a while now, pill fatigue has been steering the nutraceutical industry beyond the familiar territory of tablets and capsules, with semisolid and chewable formats steadily moving into the mainstream. Gummies, soft chews and jellies are increasingly finding a place in consumers' daily wellness routines, reflecting a growing demand for dosage forms that combine convenience, palatability and ease of consumption without compromising functionality.

What began as an answer to changing consumer preferences has since evolved into a catalyst for innovation across the nutraceutical value chain. The growing popularity of semisolid and chewable nutraceuticals is prompting companies to look beyond the ingredient itself and focus on the complete product experience. In doing so, they are navigating a host of formulation and manufacturing considerations while exploring new ways to improve convenience, compliance and product differentiation.

3D printing of personalised gummies, AI-assisted formulation design, and electrospun nanofiber oral films are emerging innovations

KEDAR CHIKHALIKAR
Senior Technical Business Development Leader – Pharma & Nutra, Lubrizol

The role of delivery systems in nutraceuticals has evolved significantly over the past few years. Traditionally, the focus was primarily on the active ingredient; however, today the delivery format plays an equally important role in determining consumer acceptance, compliance, and overall product success

KALYAN DUTTA
Head-Procurement, Zeon Lifesciences

More than a consumer-friendly format

For years, semisolid and chewable nutraceuticals were largely valued for making supplements easier and more enjoyable to consume. Today, their role extends far beyond convenience. As companies look to create products that stand out in an increasingly competitive market, these dosage forms are emerging as strategic tools that support consumer engagement, improve adherence and help brands differentiate their offerings.

This evolution is also expanding the scope of semisolid formats across wellness categories, with brands increasingly exploring them for applications ranging from immunity and gut health to sports nutrition, beauty-from-within and healthy ageing. Their versatility is allowing manufacturers to tailor products to different consumption occasions and consumer groups, opening new avenues for portfolio expansion.

Echoing this shift, Kalyan Dutta, Head Procurement at Zeon Lifesciences, says, "The role of delivery systems in nutraceuticals has evolved significantly over the past few years. Traditionally, the focus was primarily on the active ingredient; however, today the delivery format plays an equally important role in determining consumer acceptance, compliance, and overall product success."

This evolving perspective is also changing how manufacturers approach innovation. Rather than selecting a delivery format after finalising the active ingredients,

companies are increasingly considering it much earlier in the development process. Dutta notes that semisolid and chewable formats such as gummies, soft chews, and functional jellies are transforming nutraceuticals from a "medicine-like" experience into lifestyle-oriented wellness solutions.

He adds that the growing preference among younger consumers, working professionals and ageing populations for enjoyable and easy-to-consume products is further encouraging brands to use delivery formats as a means of improving compliance while creating stronger product differentiation.

Engineering the chew

While semisolid and chewable nutraceuticals may appear simple on the surface, developing them is anything but. Unlike conventional tablets and capsules, these dosage forms require manufacturers to strike a careful balance between consumer appeal and scientific performance. Every aspect, from taste and texture to stability and nutrient delivery, must work in harmony without compromising the efficacy of the active ingredients.

According to Dutta, developing semisolid and chewable nutraceuticals demands a multidisciplinary approach that combines formulation science, stability management, sensory optimisation and manufacturing expertise. He points out that many nutraceutical ingredients are inherently sensitive to moisture, heat, oxygen and pH, making ingredient compatibility and shelf-life management critical considerations throughout the product lifecycle. At the same time, delivering a pleasant taste and consistent texture without affecting efficacy remains one of the biggest formulation challenges.

Supporting this, Kedar Chikhalikar, Senior Technical Business Development Leader – Pharma & Nutra, Lubrizol, says, "Formulation Considerations: These include Compatibility / Taste Masking / Stability and Bioavailability considerations." (Referring to key formulation parameters that determine how well active ingredients perform within semisolid and chewable dosage forms)

He explains that nutraceutical actives such as botanicals, probiotics, omega-3s and minerals often react differently within semisolid matrices, making compatibility studies essential from the earliest stages of product development. Since gummies and soft chews typically contain higher moisture levels than conventional dosage forms, controlling water activity also becomes essential to minimise microbial growth, preserve texture and maintain potency throughout the product's shelf life.

Not as simple as it tastes

Formulating a successful semisolid nutraceutical is only one part of the equation. Translating that formulation into a commercially viable product requires equal attention to manufacturing precision, process control and quality assurance. Unlike conventional dosage forms, semisolid and chewable products demand tighter control over processing conditions to ensure consistency in texture, dose uniformity and shelf stability.

Highlighting these complexities, Dutta says, "From a manufacturing perspective, precise process control is essential to ensure dose uniformity, ingredient dispersion, microbial safety, and product stability. Packaging selection also plays a crucial role in protecting these formats from moisture and environmental degradation."

The increasing complexity of these dosage forms is also encouraging manufacturers to adopt technologies that preserve ingredient integrity while enhancing consumer acceptance. According to Chikhalikar, "Innovations in encapsulation technologies, lipid-based carriers, and microencapsulation are improving the stability and bioavailability of sensitive ingredients. Sugar-free formulations using alternative sweeteners, natural flavors, and pectin-based systems are enabling cleaner labels and better nutritional profiles. Oral thin films, fast-dissolving strips, and controlled-release technologies are also expanding the possibilities for nutraceutical delivery."

These advancements are allowing companies to move beyond simply developing consumer-friendly products towards creating dosage forms that balance scientific performance with manufacturing efficiency. As manufacturers continue to refine processing technologies and ingredient systems, semisolid nutraceuticals are becoming increasingly capable of delivering complex formulations without compromising quality, stability or the overall consumer experience.

Designed for the consumer

The rise of semisolid and chewable nutraceuticals is doing more than expanding the industry's portfolio of dosage forms. It is encouraging companies to rethink where product development begins. Rather than treating the delivery format as the final step, manufacturers are increasingly factoring it into the earliest stages of development, recognising that the success of a product depends as much on the consumer experience as it does on the science behind the formulation.

Reflecting this shift, Dutta highlights, "Instead of beginning solely with ingredient selection, companies are increasingly starting with consumer needs, consumption occasions, and user experience before designing the formulation. This consumer-centric approach is driving innovation across wellness categories including immunity, beauty-from-within, cognitive health, gut health, sports nutrition, and healthy ageing."

This change in approach is also broadening the role of semisolid formats across diverse consumer groups. Dutta notes that brands are increasingly seeking differentiated dosage forms that strengthen consumer engagement and brand recall while maintaining scientific credibility. The growing demand for family-friendly products that can be consumed by children, adults and older individuals alike is further encouraging companies to move beyond conventional dosage forms and develop products that are both accessible and convenient.

Offering a complementary perspective, Chikhalikar, adds "The move toward semisolid and chewable nutraceuticals is primarily driven by consumers wanting convenient, enjoyable, easy-to-take, and personalised wellness solutions. Millennials, Gen Z, and aging populations alike value products that fit seamlessly into their lifestyles. Clean-label, vegetarian, and sugar-free products are increasingly important, particularly in markets like India, where dietary preferences strongly influence purchasing decisions."

Consumer expectations are no longer confined to efficacy alone. Increasingly, they encompass taste, convenience, clean-label formulations and formats that integrate naturally into everyday routines. As these expectations continue to evolve, companies are finding that semisolid and chewable nutraceuticals are not merely responding to market demand but actively shaping the direction of future product innovation.

What comes next?

The momentum behind semisolid and chewable nutraceuticals shows little sign of slowing. As consumer expectations continue to evolve and product differentiation becomes increasingly important, manufacturers are already looking beyond today's formats to develop delivery systems that offer greater convenience, precision and functionality. The next phase of innovation is expected to focus not only on making nutraceuticals easier to consume but also on delivering more personalised and targeted wellness solutions.

Looking ahead, Dutta, hopes, "Looking ahead, the next generation of nutraceutical delivery systems will likely combine convenience, personalisation, and enhanced bioavailability. We anticipate strong growth in advanced oral delivery systems such as oral thin films, sublingual sprays, liquid-filled capsules, precision-dose sachets, functional melts, and hybrid delivery technologies that combine multiple release mechanisms. These trends align closely with the industry's broader movement toward personalised and preventive nutrition."

The pace of innovation is also expected to be driven by advances in formulation technologies that can improve the performance of increasingly complex nutraceutical ingredients. According to Chikhalikar, "The future of semisolid nutraceuticals will be shaped by personalisation, functional foods, and advanced delivery technologies. 3D printing of personalised gummies, AI-assisted formulation design, and electrospun nanofiber oral films are emerging innovations. Continued development of sugar-free, plant-based, and clean-label systems, combined with pharmaceutical-grade excipients, will further improve efficacy, stability, and consumer acceptance."

While many of these technologies are still at different stages of development and commercial adoption, they point towards a common direction of travel. Semisolid and chewable nutraceuticals are steadily evolving from consumer-friendly dosage forms into sophisticated delivery platforms that combine science, convenience and innovation. As the industry continues to push the boundaries of formulation and manufacturing, these formats are expected to play an increasingly important role in shaping the future of nutraceutical product development.

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Why NDDS is nutraceuticals' next frontier

For decades, the nutra industry chased the next big ingredient. It rarely asked if the body could use it. NDDS is the industry's answer to that question, and its biggest opportunity yet, finds **Lakshmipriya Nair**

For years, nutraceutical innovation was about the ingredient. Curcumin, omega-3, probiotics, collagen, CoQ10, resveratrol, each had its moment.

But the industry is now asking a harder question. Does the ingredient actually work in the body?

That's not a given. Many actives dissolve poorly, break down during digestion, or are absorbed inefficiently. A product can carry the right ingredient at the right dose and still underdeliver, because too little of it ever reaches the bloodstream. Curcumin is the classic case. Its anti-inflammatory benefits are well proven, but it dissolves poorly and clears from the body fast, before enough is absorbed.

The old fix was to add more. But more isn't always better, so the industry is shifting focus from adding more of an ingredient to delivering it better. That shift has put novel drug delivery systems (NDDS) in the spotlight.

As Arushi Jain, Director at Akums Drugs & Pharmaceuticals, explains, "The nutraceutical industry is witnessing a shift from ingredient-centric formulations to outcome-driven solutions. While the choice of ingredient remains important, the real question today is whether that ingredient can be effectively absorbed and utilised by the body. Many nutraceutical actives — curcumin, omega-3 fatty acids, probiotics, certain vitamins, botanical extracts — face challenges related to solubility, stability, and bioavailability. Delivery technology has become a critical factor in determining product effectiveness."

What's in a supplement matters less than it used to. How well the body absorbs it matters more.

India: Ground zero for this shift?

India is a strong test case for this shift, for three reasons.

- **Widespread deficiencies:** Nearly half of Indians are Vitamin D deficient, despite plenty of sunshine. Vitamin B12 deficiency hits 40-70 per cent of some groups, especially vegetarians. Iron deficiency anemia affects hundreds of millions more. These problems have persisted for decades, even with sustained supplement use, a sign that the ingredients alone haven't been enough.
- **An ageing population:** India's elderly population will pass 230 million by 2036. As people age, their bodies absorb nutrients less efficiently, right when they need them most.

Over the next five years, technologies that improve bioavailability and protect sensitive ingredients are likely to have the greatest impact on the nutraceutical industry

ARUSHI JAIN
Director of Akums Drugs & Pharmaceuticals

From around 50, stomach acid, bile and enzyme activity fall, so absorption drops exactly when nutrient needs are highest. The science that usually goes into advanced global pharma formulations now goes into a supplement range built for Indian families over 50

MIHIR KARKARE
Co-founder and CEO
Meru Activs

"From around 50, stomach acid, bile and enzyme activity fall, so absorption drops exactly when nutrient needs are highest," explains Mihir Karkare, Co-founder and CEO of Meru Activs. He built his brand specifically around this demographic, launching Meru Activs in January 2026 with a phospholipid-based supplement range developed in partnership with VAV Life Sciences. "The science that usually goes into advanced global pharma formulations now goes into a supplement range built for Indian families over 50," he informs.

- **A stronger local supply chain:** Good delivery technologies needs high-quality raw materials at scale and at the right price. Greater domestic availability has the potential to reduce costs, strengthen local manufacturing, and accelerate adoption of advanced delivery technologies across the sector.

Borrowing from pharma science

This mirrors what happened in pharma decades ago. Two medicines with the same active ingredient can produce different

outcomes because of differences in formulation and delivery. Nutraceuticals are heading down the same path.

For instance, lipid-based delivery systems improve absorption of drugs with poor solubility, and became popular during the COVID-19 pandemic as the lipid nanoparticles behind mRNA vaccines. "Lipid based delivery systems use nanoencapsulation of actives for significant enhancement of bioavailability. The technology is principally the same as that used for mRNA vaccines during the pandemic," explains Arun Kedia, MD, VAV Life Sciences.

Research also proves that lipid-based delivery can significantly boost absorption of poorly soluble compounds like curcumin, vitamin D and flavonoids, while protecting them from breaking down during digestion. These benefits are pushing ingredient manufacturers, CDMOs, and brands to invest in formulation and delivery technologies, not just chase new ingredients.

Karkare explains the mechanism, "Phospholipids are what our own cell membranes are made of and they work in various mechanisms to help deliver nutrients much more effectively. One mechanism (called liposomal delivery) involves the formation of microscopic vesicles that carry nutrients like Vitamin D3, Silymarin etc. across the gut in a form the body absorbs efficiently." On the strategic bet behind it, he adds, "We did not invent a new molecule. We obsessed over delivery, because that is where most supplements lose their value."

The benefits go beyond absorption. "No significant challenges. On the contrary, lipidic nanoencapsulation protects actives from environmental or gastric degradation. Necessary (usual) precautions during processing are avoiding overheating beyond 45°C, excessive exposure to moisture and air i.e. processing in a standard, ICH standard clean room environment (GMP)," says Kedia. Format flexibility is opening doors across age groups.

"Lipid based nano-encapsulated actives can be applied without limitation to all age groups and diverse finished dosage forms (FDFs). Examples are hard shell capsules, soft gelatin capsules, liquid sachets, oral liquids (syrups), oral sprays, gummies for children, nutra cups (for Nespresso type machines), mouth dissolving films, topical lotions etc.," he adds.

"Innovation sounds exciting until you start building it. One reality the industry faces is that advanced delivery systems are often significantly more demanding than traditional dosage forms

YASHNA GARG
Founder,
Yugap Wellness

Lipid based delivery systems use nanoencapsulation of actives for significant enhancement of bioavailability. The technology is principally the same as that used for mRNA vaccines during the pandemic

ARUN KEDIA,
MD,
VAV Life Sciences

Beyond the label

Technology isn't the only force driving this shift. Consumer expectations have changed too, in a shorter span of time.

As Yashna Garg, Founder, Yugap Wellness, observes, "A few years ago, most conversations around nutraceuticals started and ended with the ingredient. Consumers wanted to know what was inside the product and whether there was science behind it. That is still important, but the conversation has become more nuanced. People are now asking practical questions. Will this fit into my routine? Will I remember to take it every day? Is it easy to consume? And perhaps most importantly, will my body actually make use of it?"

That's changing dosage forms too. "At Yugap Wellness, we have seen growing interest in formats such as oral sprays, particularly in the sleep category. Many consumers appreciate the simplicity of a spray and the fact that it removes the need to swallow tablets. Powder sachets are also finding strong acceptance across categories such as gut health, skin health, and fitness. They travel easily, fit naturally into daily habits, and feel less like a supplement routine and more like a wellness ritual. What is becoming clear is that consumers no longer separate efficacy from experience. They expect both," Garg says.

Compelling science, complicated business

The science is compelling but commercialisation is not easy.

Jain is candid about the trade-offs. "One of the key challenges is balancing innovation with affordability. Advanced delivery technologies often require specialised excipients, sophisticated manufacturing processes, extensive formulation work, and stability evaluations. While these technologies can improve product performance, they also increase development and production costs. The challenge lies in making these innovations accessible to consumers while remaining competitive in a price-sensitive market."

She also points to regulation and explains, "India's nutraceutical sector is

regulated by FSSAI, and companies must ensure that novel formulations, ingredients, claims, and delivery systems comply with applicable regulations and quality standards. As innovation accelerates, maintaining robust scientific substantiation, product stability, ingredient standardisation, and regulatory compliance becomes increasingly important."

And to a third, quieter challenge, i.e. consumer literacy. "Consumer awareness is another factor. While consumers are familiar with ingredients such as probiotics, collagen, vitamins, and herbal extracts, awareness around concepts such as bioavailability, controlled release, and enhanced absorption remains relatively limited. Bridging this knowledge gap through scientific communication and consumer education will be critical for the wider adoption of NDDS-based nutraceuticals."

Garg echoes similar views and opines, "Innovation sounds exciting until you start building it. One reality the industry faces is that advanced delivery systems are often significantly more demanding than traditional dosage forms. The science, manufacturing requirements, stability work, and validation processes can all add layers of complexity."

On the consumer side, she adds, "Many people are familiar with ingredients such as collagen, probiotics, magnesium, or melatonin because they have heard about them repeatedly. Delivery technology, however, is a newer conversation. Consumers may immediately understand what an ingredient does, but not necessarily why a spray, sachet, or another delivery format may improve the overall experience or performance. That creates an education gap. At the same time, brands cannot simply claim superior absorption or effectiveness. Those claims need scientific support, which means investing in research and validation. And of course, there is the reality of the Indian market. Consumers increasingly want innovative products, but they remain conscious of value. Balancing innovation, science, and affordability is often where the real challenge lies."

What's coming next

Both Jain and Garg point to bioavailability-enhancing and convenience-driven formats as the next big lever.

Jain says, "Over the next five years, technologies that improve bioavailability and protect sensitive ingredients are likely to have the greatest impact on the nutraceutical industry. Many nutraceutical actives offer proven health benefits but face limitations in terms of absorption or stability. Technologies such as microencapsulation, lipid-based delivery systems, controlled-release platforms, and ingredient protection technologies are increasingly being used to address these challenges." She sees consumer preference shaping which formats scale fastest, too: "Convenient formats such as gummies, oral dissolving tablets, effervescent systems, and specialised softgels are expected to witness sustained growth because they align with modern lifestyles and improve adherence."

Garg's bet is more specific,"If I had to choose, I would look closely at oral sprays and advanced powder formats. Both feel aligned with how consumers are approaching wellness today. Oral sprays are straightforward. They are convenient, easy to carry, and easy to incorporate into everyday life. We are already seeing strong potential in areas such as sleep, stress management, and energy support, where consumers are looking for simple solutions rather than complicated routines." Her underlying thesis is, "Ultimately, I think the formats that will succeed are the ones that reduce friction. The easier a product is to use consistently, the more likely consumers are to stay engaged with it."

What will consumers choose: Ingredient or delivery?

Both leaders agree on the trajectory that ingredients will still matter, but delivery will increasingly define trust and repeat purchase.

Jain opines,"The future consumer is likely to evaluate both. Ingredients will continue to drive initial interest, but delivery effectiveness will increasingly influence trust, repeat purchases, and long-term brand preference." She concludes, "Ultimately, consumers are becoming more outcome-oriented. While ingredients will remain important, products that combine scientifically backed ingredients with effective delivery systems are likely to be better positioned in a market that is becoming increasingly sophisticated and informed."

Garg frames the same shift through outcomes rather than molecules and states, "People do not wake up wanting collagen. They want healthier-looking skin. They do not actively seek melatonin. They want better sleep. The ingredient is important, but it is ultimately a means to an outcome." She continues: "If two products contain similar ingredients, people will naturally begin paying closer attention to which one fits better into their lifestyle, feels easier to use, and delivers a better experience overall. Ingredients will always matter. They are the foundation. But increasingly, the difference between a good product and a great one may come down to how effectively that ingredient reaches the consumer — and how consistently the consumer chooses to come back to it."

Where the money goes next

Pulling the threads together, this shift has five major implications:

1. Differentiation through formulation technology: Brands can move beyond 'ingredient wars' and differentiate on bioavailability, stability, and format experience, using NDDS as a core value proposition.

2. Premiumisation and margin expansion: NDDS-enabled products can be positioned as 'clinical-grade' or 'bioavailable premium', supporting higher price points and better margins.

3. CDMO and ingredient-partner opportunities: Suppliers with NDDS capabilities like liposomes, nanoemulsions, phospholipid systems, microcapsules, controlled-release technologies, are likely to see rising demand from both domestic and export-oriented brands.

4. Targeted product portfolios: Flexible formats let companies build age- and need-specific lines, over-50, kids, athletes, women's health, rather than one-size-fits-all supplements.

5. A regulatory and evidence strategy: As regulators seek stronger evidence, brands using NDDS will need to back claims with bioavailability studies, clinical data, and clear labelling, reinforcing trust and premium positioning.

India's nutraceutical journey is moving from 'what's inside' to 'how well it works' and NDDS is the engine of this shift. Growth is likely to come from smarter formulations, ones that combine solid science, better delivery, and a better everyday experience.

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Beyond formulation: Why ingredient integrity defines nutraceutical success

Prashant Nagre, MD, Fermenta Biotech, India accentuates that science-backed sourcing, robust manufacturing standards, and ingredient traceability have become critical determinants of long-term success in nutraceuticals

India's nutraceutical industry is experiencing unprecedented growth. Driven by surging consumer awareness of preventive healthcare and wellness, the sector has evolved from a niche category into a mainstream pillar of modern health management. Yet, as the market expands, so does scrutiny. Consumers, healthcare professionals, regulators, and brand owners are increasingly asking a fundamental question: 'Can the industry consistently deliver products that are backed by science, manufactured responsibly, and trusted to perform?'

The answer cannot be found merely in finished formulations but in the quality, traceability, and scientific reliability of the ingredients that power them.

The trust crisis in india's nutraceutical sector

Vitamins and minerals form the foundation of balanced nutrition, supporting essential functions that influence health, resilience, and overall well-being. Their role in addressing nutritional gaps is becoming increasingly significant.

Among many essential nutrients, we focus on Vitamin D3. The sunshine vitamin has emerged as one of the most important nutrients in preventive healthcare. Long associated with bone health, it is now recognised for its wider role in supporting immune function, muscle health, and general well-being.

The vitamin D ingredient market in India is growing rapidly, with global projections showing it will expand from $1.7 billion in 2025 to $3.2 billion by 2035, at a CAGR of 7.2 per cent.1 This growth underscores India's unique public health challenge: widespread Vitamin D deficiency across all age groups. However, the growing demand for Vitamin D supplementation has additionally highlighted a wider industry challenge: the need to establish stronger standards for ingredient quality and manufacturing excellence.

In this era, trust is increasingly built through demonstrable science, robust quality systems, regulatory compliance, and technological innovation. For nutraceutical brands, the credibility of the ingredient supplier has become as important as the product itself.

As a result, manufacturers are seeking partners who can provide not only ingredients but also scientific assurance, technical expertise, plus a commitment to consistent quality

The science-backed standard: What sets quality nutrition apart

The effectiveness of any nutraceutical product ultimately depends on the integrity of its ingredients. Variability in purity, potency, stability, or manufacturing processes can directly impact product performance and consumer outcomes. Standard Vitamin D3 is naturally fat-soluble and highly prone to oxidation, while generic powders may suffer from poor water solubility and variable intestinal absorption. This makes consistent quality particularly important for Vitamin D3. The ingredient must meet stringent purity standards while maintaining stability across diverse formulations and applications. Achieving this requires sophisticated manufacturing processes, rigorous quality controls, and deep scientific expertise.

The same focus on quality is equally critical in vitamin-mineral premixes, where performance depends not only on the nutrients included, but on how consistently they are delivered in the final product. Premixes play an important role in addressing micronutrient gaps and hidden hunger, where diets may provide enough calories but fall short on essential vitamins and minerals. Even minor variations in potency, stability, blend uniformity, or ingredient compatibility can affect the nutritional value and effectiveness of the finished formulation.

Each nutrient must remain stable through processing and storage, while ensuring uniform distribution in every serving.

The industry is increasingly recognising that ingredient quality cannot be treated as a commodity. It serves as a key value driver, influencing efficacy, compliance, consumer trust, and long-term brand reputation.

Science-backed ingredients therefore serve a dual purpose: enhancing product performance while strengthening confidence across the value chain.

Fermenta's nutraceutical portfolio includes customised vitamin-mineral premixes for different categories viz. staple food fortification, food and beverages, dietary and nutraceutical supplements, therapeutic foods and micronutrient powders. These solutions are developed at Fermenta's FSSAI and GAIN-certified premix facility in

Kullu, India.

Fermenta continues to expand its offerings with VITADEE Green®, a 100 per cent plant-based, vegan and vegetarian-friendly variant of the sunshine vitamin, suitable for food and nutraceutical applications.

The way forward: Building trust

For Indian physicians and consumers selecting supplements, three critical questions matter:

1. Does the product deliver what it is meant to?
2. Is the ingredient bioavailable?
3. Is it standardised and verified for purity?
4. Does it have clinical research supporting its claims? (Ideally with Indian population data)

The sourcing-trust imperative for India

India's nutraceutical industry's future depends on earning consumer trust through commitments towards quality and clinical research. Nutraceutical brands will increasingly gravitate toward ingredient partners that can support regulatory compliance, ensure quality through superior technology, and foster long-term trust.As India's market grows, only brands embracing science-backed sourcing standards will sustain long-term success in this competitive landscape.

Reference:
1. https://www.futuremarketinsights.com/reports/vitamin-d-ingredients-market

How the nutraceutical industry must rebrand to counter consumer scepticism

Yashna Garg, Founder, Yugap Wellness opines that the nutraceutical industry's biggest challenge is no longer consumer awareness but consumer trust. She outlines why authentic storytelling, founder transparency, evidence-based communication, and scientific credibility will be critical for brands seeking long-term success in an increasingly skeptical wellness market

The nutraceutical industry stands at a fascinating crossroads. On one hand, consumer interest in preventive healthcare has never been higher. More people are actively looking for ways to improve their sleep, gut health, immunity, energy, and overall wellness before a health concern becomes a medical condition.

On the other hand, consumer skepticism is also at an all-time high.

The irony is that while the industry is growing rapidly, trust is not growing at the same pace.

Today's consumers are not just evaluating products. They are evaluating claims, founders, content, reviews, and even the authenticity of the images and videos they see online. In an era where almost everything can be generated, enhanced, or manipulated using artificial intelligence, the question consumers are asking is no longer, "Does this product look good?" It is, "Can I trust this at all?"

The nutraceutical industry does not have a demand problem.

It has a credibility problem.

The era of overpromising has caught up with us

For years, the industry has relied on exaggerated promises to attract attention.

Consumers have been exposed to products that claim to eliminate acne overnight, reverse aging in weeks, dramatically boost immunity, or solve complex health concerns through a single ingredient.

While such messaging may generate clicks and short-term sales, it has also contributed to long-term distrust.

This concern is not new. Even the advertising industry has repeatedly highlighted the issue. The Advertising Standards Council of India (ASCI) has consistently flagged health and wellness advertisements for making misleading and unsubstantiated claims. The ASCI's Hall of Shame reports have repeatedly showcased how exaggerated promises continue to mislead consumers across health-related categories.

The challenge is that every misleading claim made by one company damages the credibility of the entire industry.

Consumers are becoming increasingly aware that wellness is rarely instant. They understand that meaningful improvements in health require consistency, lifestyle changes, and time. What they are rejecting is the promise of unrealistic outcomes.

The AI problem nobody is talking about

Artificial intelligence has transformed content creation.

Today, brands can generate highly realistic before-and-after images, testimonials, product videos, and lifestyle content within minutes. While AI can be an incredible tool for creativity and efficiency, it has also created a new challenge: consumers are finding it increasingly difficult to distinguish between what is real and what is manufactured.

A perfectly generated image may attract attention, but it does not create trust.

A highly polished AI-generated founder video may look impressive, but consumers eventually want authenticity.

As marketing becomes more sophisticated, consumers are becoming more cautious. The more realistic content becomes, the more people question its authenticity.

The future of branding will not belong to the brands with the most polished content. It will belong to the brands with the most believable stories.

Founder transparency is becoming a competitive advantage

One of the biggest shifts we are witnessing is the growing importance of founder-led brands.

Consumers increasingly want to know who is behind a product. They want to understand the motivations, values, and experiences of the people building the company.

This means founders can no longer remain invisible.

Consumers appreciate founders who show up on camera, share their journeys, discuss challenges openly, and communicate directly with customers. They connect with brands that are willing to share not only successes but also setbacks, product development struggles, team growth stories, and lessons learned along the way.

Trust is built when consumers see real people behind a business.

The future of branding may be less about creating perfect brand identities and more about creating authentic human connections.

Evidence-based communication must become the industry standard

Consumers today are asking tougher questions than ever before.

- What is the dosage?
- Why was this ingredient selected?
- What evidence supports this formulation?
- These are healthy questions for the industry.

However, evidence-based communication must also be approached realistically.

There is growing discussion around clinical validation, and rightly so. Science-backed products are essential for the industry's long-term credibility. However, expecting every nutraceutical product to undergo large-scale clinical trials is not always practical. Clinical studies can take months, and in some cases years, to complete, while brands are often under pressure to innovate and respond quickly to evolving consumer needs.

Take Ashwagandha, for example. The ingredient itself has been studied extensively for stress and wellness benefits. If multiple brands are using the same well-researched ingredient at scientifically supported dosages, does every product require a separate large-scale clinical trial? Perhaps not. The greater focus should be on using evidence-backed ingredients responsibly, ensuring quality, appropriate dosing, and formulation integrity.

This is where greater government support becomes important. India has a tremendous opportunity to invest in collaborative research programs, ingredient-level studies, formulation research, and public-private partnerships that strengthen the scientific foundation of the nutraceutical sector while enabling innovation to move at a practical pace.

India has a tremendous opportunity to invest in collaborative research programs, ingredient-level studies, formulation research, and public-private partnerships that strengthen the scientific foundation of the nutraceutical sector while enabling innovation to move at a practical pace

At the same time, science should not only focus on individual ingredients. Consumers do not consume isolated ingredients; they consume formulations. Understanding how ingredients work together, influence absorption, and create synergistic benefits will become increasingly important.

The future lies not in choosing between tradition and science, but in combining both responsibly.

Branding economics: Why trust is good business

Trust is often discussed as a moral responsibility. It is also a business necessity.

Customer acquisition costs continue to rise. Digital advertising is becoming more expensive, competition is increasing, and consumer attention spans are shrinking.

A brand built on exaggerated claims may generate a quick sale, but it rarely generates loyalty. A brand built on trust creates repeat purchases, referrals, stronger retention, and higher lifetime value.

Consumers who trust a brand are more likely to stay with it, recommend it, and explore additional products within the portfolio. In an increasingly crowded market, trust is becoming one of the strongest economic advantages a brand can build.

The road to 2030

As the nutraceutical industry moves toward 2030, success will not be determined by who makes the loudest claims or produces the most polished advertisements.

It will be determined by who earns the greatest trust. That means fewer exaggerated promises and more realistic expectations. It means less reliance on artificial perfection and more emphasis on authentic storytelling. It means founders becoming visible and accountable. It means investing in science while communicating it in a way consumers can understand. And most importantly, it means remembering that every product sold represents a promise made to a consumer.

The future of nutraceuticals will not be built on marketing alone. It will be built on credibility. Because in a world over flowing with information, content, and claims, trust is no longer a differentiator. It is the product.

Why clinical validation will decide the future of nutraceutical brands

Sargam Dhawan Bhayana, Director, Planet Herbs Lifesciences, examines how FSSAI's new scientific dossier requirements are reshaping the sector, compelling brands to substantiate product claims with robust safety, efficacy, and consumption data

In January 2026, the Food Safety and Standards Authority of India (FSSAI) stopped accepting promises and started asking for proof. From the first of the month, every application seeking a food safety review or change in food standards had to come with a standardised scientific dossier, covering nutritional composition, Indian consumption data, toxicological findings, safe intake thresholds, and allergy assessments.

I don't think most brands have absorbed what this actually means. It is not a procedural update. It is the end of a particular kind of business model: the one where claims sit on packaging and hope consumers don't ask follow-up questions. Clinical validation is no longer a competitive advantage. It is the price of admission.

The growth

The Indian nutraceutical category has been growing in double digits annually for years. Growth at that pace pulls in serious manufacturers and brands that exist mostly on Instagram, in roughly equal numbers. The self-declaration framework was designed to enable innovation. It also enabled vagueness, and the regulator has clearly run out of patience with the second part.

The signals were there through 2025. In May, the FSSAI launched a consumer-facing portal and mobile app letting buyers report misleading claims on food labels. In November, it ordered a nationwide crackdown on beverages misusing the term ORS. Through the year, enforcement against products exceeding Recommended Daily Intake limits and using unpermitted ingredients was visibly stepped up. The dossier rule is the logical next step.

What the dossier rule requires

Under the new framework, brands seeking approval for a new product, or a review of an existing one, have to submit detailed nutrition profiles validating claimed nutrient levels, toxicological and safety data for ingredients, Indian-specific dietary consumption data, and a functional justification explaining how an ingredient actually delivers the benefit claimed.

The India-specific consumption part is what most brands are not ready for. International studies will not cover it. Our portion sizes, frequency of consumption, and dietary sensitivities are not the same as those captured by trials done in Munich or Minneapolis. Brands will have to defend their claims with locally relevant evidence, not import confidence from a study done somewhere else.

Easier for manufacturers than marketers

This is structurally harder for marketing-led D2C brands that built around content and conversion. It is easier for manufacturers with existing pharmaceutical-grade quality systems. I'm not going to pretend this won't be painful for parts of the industry. It will be.

We have been manufacturing Ayurvedic and nutraceutical formulations for two decades, including for some of India's largest pharmaceutical companies. When you produce for clients who will not accept anything less than full documentation, evidence stops being a marketing exercise and becomes a daily discipline. Stability data, batch-level quality controls, ingredient traceability: this is the language of pharmaceutical contract manufacturing. It is also, suddenly, the language the regulator is asking the rest of the category to speak.

The same discipline carries through to formulation. You choose ingredients for documented activity, not consumer recognisability. You put them through pilot clinical observation, stability studies, and third-party efficacy testing. And honestly, the most useful efficacy signal in this category isn't a slide of trial data anyway. It is repeat purchase. Marketing brings buyers in once. Outcomes bring them back.

The rule punishes brands that treated science as a brochure exercise. It rewards brands that treated it as production infrastructure. That distinction will define the next three years.

What the next three years look like

I expect visible consolidation in the category by 2027 to 2028. The cost of entry rises sharply when validation is required. A pilot for a meaningful clinical study can run between Rs 10 lakh and Rs 20 lakh per product, depending on design, sample size, and duration. That figure does not include the operational infrastructure needed to generate the supporting safety and stability documentation around it.

Smaller brands without manufacturing partnerships will struggle to fund proper validation. Larger brands without clinical depth will have to build or acquire it. Either way, the shelves get cleaner. Some brands will close. Others will consolidate. A few will emerge stronger.

The regulatory direction is the right one. Validation is not a tax on innovation. It is the foundation of trust. The brands that get this right will not just survive the next three years. They will define what Indian wellness looks like for the next decade

The Ayurveda overlap

There is one more layer to this. A significant share of Indian nutraceuticals is built on Ayurvedic-tradition ingredients: Ashwagandha, Tulsi, Triphala, Brahmi. AYUSH and FSSAI are governed separately, but the validation conversation crosses over even if the regulations don't. I have been observing this closely since I run an Ayurvedic company.

Ayurveda has thousands of years of empirical use behind it. That history is real. But modern consumers, and modern export markets, want modern proof too. The two are not in conflict, even if the conversation sometimes pretends they are.

The best Ayurvedic brands are already running clinical work alongside their traditional formulation expertise. International expansion makes this non-negotiable. Regulators in the UAE and Sri Lanka, both of whom have approved our manufacturing, require this kind of evidence as standard. We know this from the approval process. The point is not that Ayurveda is being challenged. The point is that Ayurveda is being asked to show its work, and most of it can.The regulatory direction is the right one. Validation is not a tax on innovation. It is the foundation of trust. The brands that get this right will not just survive the next three years. They will define what Indian wellness looks like for the next decade.The era of writing claims on a label and hoping nobody asks how you arrived at them is ending. And honestly, it is about time.

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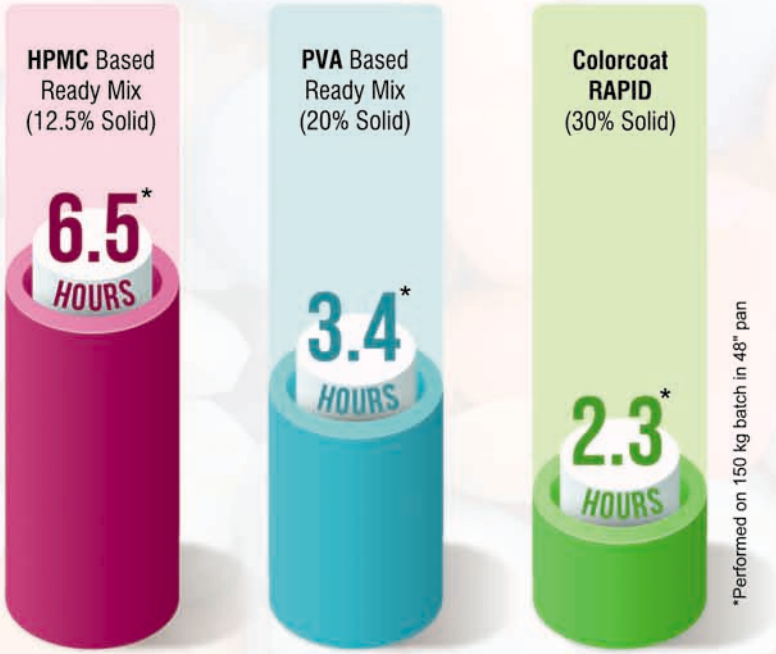

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