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The evolving landscape of evidence-based nutraceuticals

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Over the last few decades, a new health paradigm has emerged that places an emphasis on diet, nutrition and health maintenance. Nutraceuticals are an innovative concept and an umbrella term for nutritive supplement-like products with health benefits beyond their basic nutritional value. Nutraceuticals is a broad umbrella term used to label any product acquired from food origin with additional health advantages over and above the basic nutritious value available in foods. Nutraceuticals can be regarded as non-precise biological remedies used to boost general health, regulate indications and avert malignant developments. The explanation of nutraceuticals and allied output generally relies on the origin. Nutraceuticals can be segmented on the foundation of their natural basis, pharmacological circumstances, as well as the chemical structure of the products. Over the past few decades, several bioactive constituents including food extracts or phytochemical-enriched extracts were developed and marketed as pharmaceutical formulations, such as capsules, solutions, powders, gels, etc.

Defining nutraceuticals

Defining nutraceuticals is always challenging because there is no acceptable global definition despite the proposals for a framework to do so. This complication is largely due to differences in legislation around the world for governing the sales, marketing, safety, and efficacy of such products.

Another big challenge is to differentiate between nutraceuticals, dietary supplements, and functional foods because in most cases, they are discussed together. Nutraceuticals contain nutrients or extracts that are generally derived from foods or sources of natural origin that are intended for prophylactic or therapeutic applications. On the other hand, dietary supplements are nutrients or compounds that are intended to support nutrient intake, prevent deficiencies, and may occasionally exhibit therapeutic benefits even if that is not their intended function. Despite their common appearance as tablets, capsules, gels, syrups or extracts, nutraceuticals and dietary supplements are generally considered non pharmaceutical and non medicinal products.

Global market insights

The nutraceutical industry is flourishing and diversifying rapidly. The current market trends in healthcare are inclined towards preventive healthcare strategies, rather than treatment and disease management. This trend is anticipated to grow as healthcare costs increase in both developing and developed countries. The value of the nutraceuticals industry is already more than 25 per cent of the value of the pharmaceutical industry, and in some countries like Australia that is very close to prescription medicines. Although the U.S., Japan, and Germany are currently the key drivers for this growth, over the coming decades three emerging economies -- China, India, and Brazil are projected to show the fastest compound annual growth rate (CAGR). There is a distinct paradigm shift in consumer preference from synthetic pharmaceutical preparations to natural and organic nutraceutical ingredients (Ghosh & Smarta, Pharmaceuticals to Nutraceuticals-A shift in disease prevention, CRC Press, 2017).

Several market research agencies predicted this growth, based on different parameters, but all of them predicted somewhere between 9 and 12 per cent CAGR in the next decade. Straits Research in their report (May 30, 2022) predicted that the growth of the global nutraceutical products market would be at a CAGR of 9 per cent over the forecast period 2022-2030 from $475,850 million in 2021 and is expected to reach $1,033,520 million by 2030.

The global nutraceuticals market size was valued at $454.55 billion in 2021 and is expected to expand at a CAGR of 9 per cent from 2021 to 2030. The growing demand for evidence-based products for the management of illness is expected to be a key driving factor for the market over the forecast period. A favourable outlook towards medical nutrition considering the increasing application for the treatment of cardiovascular disorders and malnutrition is likely to stimulate the growth of dietary supplements (Grand View Research, 2021).

The demand for dietary supplements has reached new highs across the value chain, including among suppliers, manufacturers, distributors, and retailers. Even though the sales surge began with immunity products, the halo effect will likely spread for nutritional and health outcomes across the entire market.

What’s driving exponential growth in the global nutraceutical market

The nutraceutical industry is largely consumer-driven and will continue to grow because it fits perfectly into the changing lifestyles of people in both developing and developed countries. All market research organisations demonstrated the following factors for market growth, expansion, and segmentation:

- Increasing investment through M&A
- Development of function-specific antioxidants
- Increasing disposable income
- Increasing need for preventive healthcare
- Growing awareness regarding health and well-being
- Constant evidence-based innovations
- Increasing prevalence of lifestyle-related disorders
- Increasing number of fitness/wellness centres in developing regions
- Rise of e-commerce industry

Increasing ageing population

The healthcare systems are continuously struggling to maintain a healthy lifespan for their elderly citizens, which is growing at a very high rate. However, healthy ageing can be attained mainly by consuming a healthy and nutritious diet, along with an active and appropriate lifestyle. Evidence-based nutraceuticals have the potential to protect against ageing and have been shown to prevent age-related chronic conditions, thereby promoting longevity and overall well-being for the elderly population.

Increasing cost of healthcare system

Changes in the healthcare industry, along with increasing healthcare and drug costs are also triggering the growth of the nutraceuticals market. Consumers are increasingly inclined to look towards nutraceuticals not only to improve their health but also to save money on expensive over-the-counter and prescription drugs. Cardiovascular diseases and diabetes have increased due to changing lifestyle habits, and treatment for such diseases is generally expensive. The growing trend among consumers to change their eating habits is projected to increase nutraceutical demand. The belief among consumers that a poor diet leads to increased

pharmaceutical spending is expected to boost demand for nutraceutical products, which will benefit governments by lowering healthcare and social security costs.

Increasing healthcare awareness

Heart disease, cancer, and diabetes have all increased in various segments of the population due to accelerated socioeconomic advancement that leads to lifestyle changes over time. Nutraceuticals have become more popular due to increasing health consciousness and changing consumer preferences that encourage on-the-go eating and the rising prevalence of replacing meals with relatively small nutritional snacks.

Nutraceuticals are expected to play a significant role in personalised nutrition, encouraging people of all ages and demographics to choose products that meet their nutritional needs. Consumer awareness is expected to rise due to education and clear messages to the target population about various health concerns, resulting in increased product demand.

Increasing number and nature of distribution channels

Different distribution channels currently being used include online selling, direct marketing, business-to-business (B2B) channels and business-to-consumer (B2C) channels. The growth of online sales of nutraceutical products can be attributed to the growing number of internet users and the growing interest of many of them in online shopping. This applies even in the case of health products, due to convenience. Based on the Euromonitor International Research report, the global vitamin and supplement market accounted for about € 60.2 billion in internet sales, contributing a substantial share in the growth of demand for supplements.

About 44 per cent of consumers purchase nutraceuticals online globally. Similar sales trends online are anticipated for India, being the second-largest growing online population. Digital marketing such as email marketing, social media, mobile applications (Apps), e-marketing, websites, virtual sales representatives, and closed platforms are becoming powerful tools for marketing nutraceuticals and nutritional supplements. In recent years, multi-level marketing of supplements and nutraceuticals has dramatically increased. Multi-level marketing is a strategy whereby independent distributors sell products directly to the consumer from their own homes,

online, or via telecommunications.

Impact of COVID-19 on the global nutraceutical market

In the wake of the COVID-19 pandemic, the demand for nutraceuticals has skyrocketed. Initially, the nutraceutical supply chains were struggling on a global scale to keep pace with the rapid spread of the COVID-19 virus. Now, this crisis is settling down and production has gradually resumed. Immunity-boosting supplements have become mainstream over the past year and this has led to a significant change in buying patterns and consumer behaviour. Moreover, after the COVID-19 pandemic, preventive healthcare measures such as dietary supplements will become a part of people’s everyday lives. Thus, the COVID-19 pandemic across the globe has paved the way for nutraceuticals to build a strong presence in the global market.

Product insights and dominant market trends

The recent Consumer Survey by Washington-based Council for Responsible Nutrition (CRN) showed that four in five (79 per cent) U.S. adults now take dietary supplements, an all-time high. A similar trend was experienced in the Australian market as well. The post-pandemic consumers have reprioritised the list of nutritional ingredients such as immunity boosting probiotics, vitamin B12, collagen, vitamin D, and antioxidants.

Year-end 2020 sales of nutraceuticals including functional foods and beverages promoting immunity, antioxidants, or botanicals were significantly high, particularly aligned to hydration, gut health, general immunity, long-lasting energy, and enhanced everyday performance. Weight loss products are still the fastest growing segment, whereas the prebiotics and probiotics segment is anticipated to register the highest growth rate in the coming decade. This sector had a promising role in supporting the immune system with preventive health supplements during the COVID-19 pandemic.

The increasing number of consumers that are adopting organic and vegan diets are propelling the engaged stakeholders in the nutraceutical market to focus on using organic and herbal ingredients for the production of their nutraceuticals. This is especially so, in the Asia-Pacific region which has a culture of herbal and Ayurvedic medicine.

The exponential growth of the global functional beverages market is due to a rapid increase in the number of fitness & sports enthusiasts and their inclination towards healthy lifestyles. Most of the innovations are in the low calorie and low fat categories along with added fruit and vegetable flavour additives to increase appeal to a larger consumer base.

Traditional formats such as tablets, hard capsules and soft gel capsules still dominate the mainstream dietary supplements industry, but this is changing. “Pill fatigue” results in poor compliance, and a demand for single daily doses, lower dosages (smaller capsules), or novel formats. The industry experiences many challenges, particularly in heat-sensitive ingredients. To overcome this, we can see some leading innovations such as Soft Gums, which use proprietary low temperature mogul (LTM) technology.

Pharmaceutical companies have used drug or nutrient delivery systems (DDS) for many years, and the dietary supplements industry is now catching up. New format development and adoption of new delivery technology have shown tremendous development particularly in ubiquinone (CoQ10), Omega-3 PUFA, curcumin, resveratrol, palmitoylethanolamide and Boswellia in recent years.

Future of overall nutraceutical industries

Nutraceuticals offer potential preventive care and in some cases treatment for diseases at a low cost and with faster development time. Their health impacts can be conveniently determined because historical exposure and epidemiological studies can establish their safety profiles, cutting down the time and cost for expensive phase III clinical trials.

Nutraceuticals can be applicable for several different indications due to their multi-targeted actions. The best example is curcumin from turmeric, which has lipid-lowering, blood pressure reducing, antioxidative, and anti-inflammatory properties along with the capacity to improve insulin sensitivity. But unfortunately, not all nutraceuticals are developed using extensive safety, pre-clinical and clinical parameters. Clinical assessment will also provide a paradigm shift in nutraceutical classification as drugs/pro-drug/phytopharmaceuticals rather than just as supplements.

Uniform regulatory systems across the world should allow identification and classification of these products and would provide clarity for quality, efficacy, mechanism of action, and safety to potential consumers. But unfortunately, the current regulatory regimen, particularly in Europe, may prevent small innovative companies from applying for novel food status or health claims on their products.

Considering the current regulatory frameworks, there is a need to identify and systematically summarise existing literature on the benefits and safety of nutraceuticals.

Epidemiological/observational studies can be a useful tool along with meta-analysis to shed light on the effectiveness of these products as well as to develop a safety profile for further clinical assessments.

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