



Nutricometrics: Boosting A Global Market

Ahad J. Pathan^{1*}, Anand P. Khadke¹, Asma A. Pathan¹

1. Department of Pharmaceutical Chemistry, YSPM's YTC College of Pharmacy 415011, Maharashtra, India

ABSTRACT

The market of cosmetics is highly dynamic and new product launches happen at a fast rate. Over the last years, new concepts have also been rising, as in the case of cosmeceuticals and more recently, nutricosmetics. This review aimed to explore the concept of nutricosmetics and, through exploratory review; it becomes evident that they are presented as the latest trend in the beauty industry. Nutricosmetics can be defined as a result of the intersection of cosmeceuticals and nutraceuticals, characterized as oral supplementation of nutrients formulated and marketed specifically for beauty purposes. A growing body of impressive clinical data has shown a positive association between nutraceuticals use and skin health. Along with advancing sophistication in manufacturing technologies and reliable science and expert endorsement, the nutricosmetics sector has great potential in winning over skeptical consumers. India will be a target market for Nutricosmetics in future and many pharmaceutical companies will come up with such products. Present review compiles general introduction, market overview, need, clinical evidence of nutricosmetics. It also includes nutricosmetics available in market and ingredients widely used in formulation of Nutricosmetics.

Keywords: Nutricosmetics, industry, market, consumers.

*Corresponding Author Email: asmapathan9@gmail.com
Received 15 March 2017, Accepted 28 March 2017

Please cite this article as: Pathan AJ *et al.*, Nutricometrics : Boosting A Global Market . American Journal of Pharmacy & Health Research 2017.

INTRODUCTION

As we get older, our cell building-blocks break down, causing our skin to wrinkle, our hair to get thinner and our bodies to age. Nutricosmetics aim to rebuild cellular walls at the same or faster pace than they break down; counteract the natural aging process; and help our skin, hair and nails to look younger longer than they otherwise would

Nutricosmetics which are nutrition products and supplements focused on skin, nail, hair health, anti-aging and "beauty from within" could represent one of the next big frontiers for both anti-aging and nutritional supplement categories¹.

What Are Nutricosmetics?²

Nutricosmetics are dietary supplements that support the function and the structure of the skin. Nutricosmetics belong to new category beauty products that work from within to improve the external appearance of the skin. Nutricosmetics represent a high potential market segment situated at the juncture between skincare and food supplements.

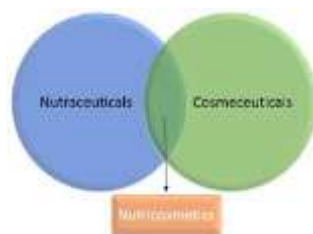


Figure 1: Nutricosmetics intersection of cosmeceuticals and nutraceuticals

Nutricosmetics are of two main categories³:

a) Pill type nutricosmetics:

- ✓ Ingested as pills for purposes such as antiageing and skin care.
- ✓ Popular brands: Inneov by L'oreal and Nestle, Imedeen by Ferrosan, Olay line by Procter & Gamble .

b) Drinkable nutricosmetics:

- ✓ Taken generally in liquid form, fortified with antioxidants, minerals and vitamins for better skin care and body health.
- ✓ Popular brands: Essensis by Danones, Lumae by Coca Cola.

Why Nutricosmetics demands growing??^{4,5}

- Increased desire to “age well and look well
- Healthier lifestyle and increasing beauty concerns
- Ageing population
- Inclination towards less invasive beauty treatments

- More educated to use different form of products (Beauty from within products)
- Increased desire to use products to support antiageing
- Emergence of the spa culture
- Rising medical health care costs
- Seeking convenient solution to support beauty from within
- Demand for natural Ingredients because of fewer side effects.
- Seeking holistic regimen for
- Managing beauty as well as ageing
- Rise in demand for specific functional products as well as ingredients.
- Well documented scientific evidence of major ingredients

Nutricosmetics Usage^{4,5}

Nutricosmetics are used for body and health care, Fig. 2 shows usage of nutricosmetics in different aspects of body and health care.



Figure 2: Nutricosmetics Usage

NEED OF NUTRICOSMATICS⁶

Look Well, Feel Well, Do Well Since 2005, natural skin care has been the fastest growing segment within the personal care sector. Consumers today are more educated about the ingredients in their products and how they may impact their health. Mass beauty brands that historically monopolized the market are beginning to pay attention to this upcoming natural health/beauty market, developing or acquiring brands along the way and building parallel strategies.

Nutricosmetics have gained traction within this sector. These consumers believe in holistic principles in managing a healthy rate of aging. Sustainability-conscious brands with a genuine mission, beyond beauty, are gaining popularity because of their strong moral values toward beauty, wellness and environmental responsibility. According to Nielsen, 63% of consumers under the age of 40 are willing to pay more for socially responsible products and services.

The appearance of your skin (and how well it ages) is influenced by many factors, including genetics, environmental toxins, hormonal changes and metabolic processes. Today we know a combination of these factors leads to cumulative changes of skin structure, function and appearance. Basically, the lifestyle you lead can accelerate or delay how well your body ages (including your skin). Evolving from the nutraceutical and cosmeceutical markets, nutricosmetics are oral based natural health products containing targeted nutrients and antioxidant mixed elixirs that can have a preventative or treatment effect on the skin, hair or nails.



Figure 3: Technologies revolving around personal care

The founder of Nutricosmetics was the Swedish biochemist Ake Dahlgren, who launched the first such product (Imedeen brand) in the late 1980s. In the past 10 years advancing manufacturing technologies and growing clinical data have created a favorable body of evidence to support the efficacy of Nutricosmetics. Many were skeptical of such claims and saw his theory as more of a marketing ploy. However, in the past 10 years advancing manufacturing technologies and growing clinical data have created a favorable body of evidence to support the efficacy of nutricosmetics. And within this past year we have seen an upswing of nutritional beauty products launched within North America.



Figure 4: Facts and figures for increasing focus on personal care

Although we aim to achieve all nutrients through diet, the inconvenient truth is we are often challenged with this on a daily basis. Body is exposed to numerous toxic metabolites capable of generating free radicals and deteriorating the structural foundation within the skin. Seen as a hybrid effect between cosmeceuticals and nutraceuticals, nutricosmetics (dubbed “beauty from within”) are oral products that generally provide naturally derived ingredients targeted to combat oxidative stress, inflammation and renewable nutrients to promote healthy skin. Specifically, Nutricosmetics are formulated to:

- ✓ Increase ROS scavenging activity
- ✓ Reduce chronic inflammation
- ✓ Stimulate immunity
- ✓ Support healthy skin cell renewal and strong dermal structure
- ✓ Potentially renew/repair photo-damaged skin
- ✓ Promote healthy hair and nails
- ✓ Support weight management

Unlike previous products, nutricosmetics today come in many forms, including tinctures, beverages, powdered stick packs, gummy bears or functional foods (as opposed to the traditional capsule or soft gel). Although the therapeutic value of such formulas may be compromised, the flexibility and convenience of these types of beverages and functional foods are resonating well with the hectic lifestyles consumers lead today.

The baby boomer generation is seeking to look and feel good as they age. Younger women are increasingly seeking preventive measures to protect their skin from accelerated aging or nutritionally manage chronic skin conditions. The urban male is increasingly concerned with appearance and more readily purchasing within the beauty, skincare and hair products sector. If formulated and marketed to the direct demographic, Nutricosmetics can offer an abundance of health, aesthetic and skin-health benefits for each type of consumer.

*Limitation for Nutricosmetics*⁵

Consumers are more educated about the health benefits of balanced nutrition and supplementation and are increasingly interested in protecting themselves from accelerated aging through more natural and non-invasive protocols. Therefore marketing specific nutritive benefits for health and skin may prove to be more effective than presenting beauty enhancing claims for Nutricosmetics. Thus far consumers have viewed nutricosmetic claims as unrealistic and over promising. This could be partly due to nutricosmetics' association with topical skincare (where instant results are often visible upon application). Unlike a topical skincare product, Nutricosmetics are metabolized through a different route of delivery and take more time to attain results (and this is where education is critical). Perceptual barrier and awareness barrier are major limitations for marketing of nutricosmetics.

MARKET OVERVIEW^{1, 2, 3,6,7,9,12}

In market regions such as Asia and Europe, Nutricosmetics have enjoyed considerable growth and success. Japan has been the global leader, but Brazil, India and China are also hot areas of growth. Yet, the United States has trailed and has a way to go to close the gap in terms of consumer understanding and penetration. Bioactive such as hyaluronic acid have seen stateside market success with respect to topical products, but for true adoption, U.S. consumers will need to be motivated to shift away from the cultural mindset of topical anti-aging "quick fixes."

In 2011, global sales of nutricosmetics reached \$4.5 billion (70% of these sales came from just two countries, Japan and China). According to Eurormonitor, year-on-year growth did not fall below 5% over 2006-2011, but for further global growth nutricosmetic manufacturers need to target markets with an aging population and where the annual disposable income (ADI) is rising. Since the eastern markets retain the majority of market share, many experts still believe North America to be a virtually "untapped market." With an aging population, rising medical health care costs and increased desire to "age well and look well," North America is expected to shift from lifestyle treatment to prevention interventions (making nutricosmetics a primary player within the healthy aging marketplace

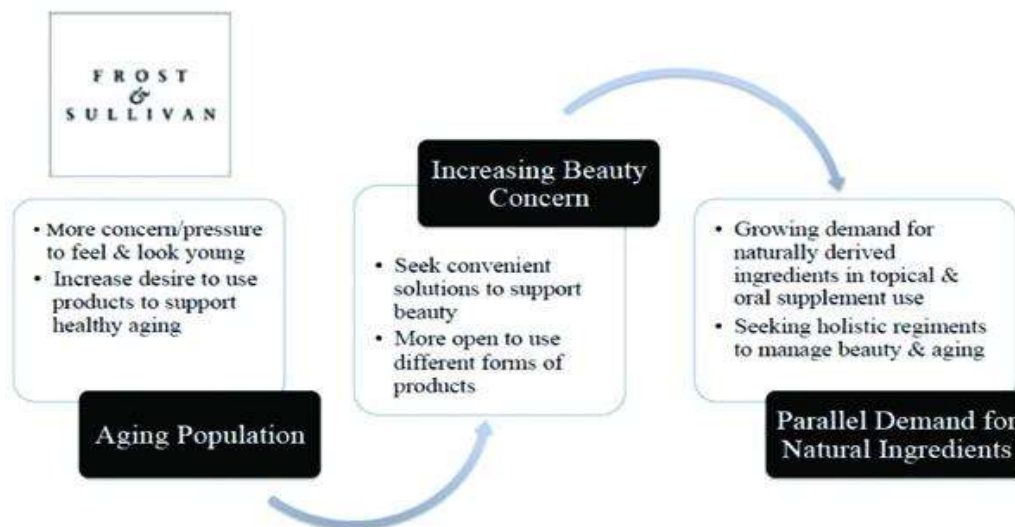


Figure 5: Reasons for growth of Nutricosmetics in market

A few years ago market analysts and industry experts predicted the “beauty from within” category would see substantial global market growth by 2012. To date, the demand for Nutricosmetics continues to evolve within the Asian markets, with Japan and China expected to lead this sector in global sales moving forward. Currently Japan leads the market, with consumer acceptance and sales accounting for greater than 90 percent of global market share. Western Europe continues to thrive in Nutricosmetics sales mainly through the health professional pharmacy-based distribution. India and Brazil are untapped markets and may offer substantial growth for manufacturers and distributors in the near future.

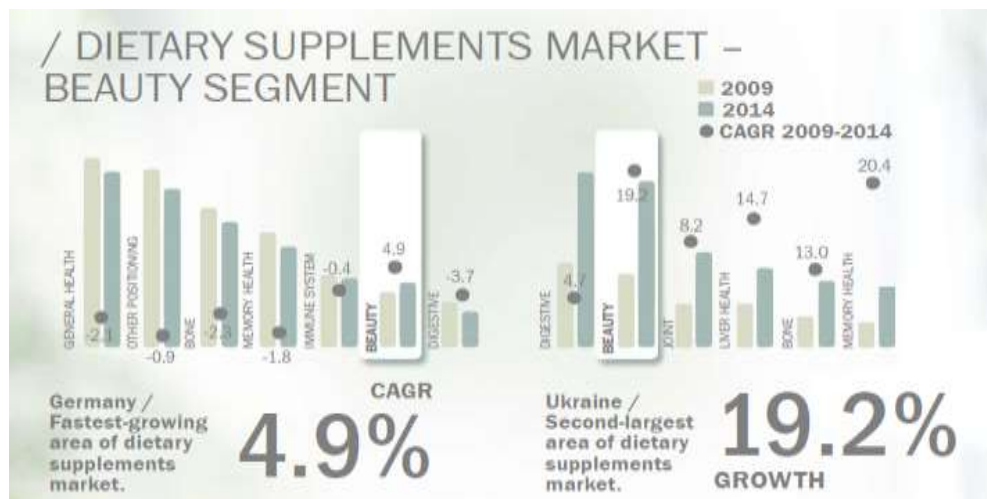


Figure 6: Market growth of nutraceuticals

Nutricosmetics in U.S. Market

US retain the largest global market sector for nutraceuticals. With increasing healthcare costs, obesity, an aging population and chronic health conditions, this sector is expected to fare well over the next five

years. US market, unfortunately, has not embraced nutricosmetics with such enthusiasm (thus far). Since 2008 this category has had its challenges; we have seen large companies pull their products from distribution due to soft sales and consumer skepticism. To date, nutricosmetic market analysis and drivers have been analyzed on a global scale. Therefore it could be argued that past unsuccessful launches in the US were, in part, due an “all in one approach.” For ex-ample, primary consumer skin health concerns in Asia are to brighten and firm the skin, while European markets seek internal photo-protective-based formulations. In the US, primary drivers and consumer skin health concerns may be different and therefore targeted demographic analysis should be considered prior to developing and launching a product to market. However some analysts are more optimistic and see the sluggish U.S. start as an opportunity for future growth and investment for industry players. A recently published global market report believes the US market is “untapped,” and predicts substantial growth in the near future. With this and past product launch failures in mind, this may be the time to take a paradigm shift on how the industry develops and markets nutricosmetics in the US.

Nutricosmetics in Indian Market

Based on geography, the global nutricosmetics market is segmented into North America, Europe, Asia-Pacific, and Rest of the World (RoW). Asia Pacific has experienced high growth in the forecast period followed by Europe and North America. The demand for nutricosmetics in Asia Pacific is due to the huge population and growing health awareness among the consumers in developing nations such as India and China. The increasing demand for "beauty from within products" is another factor which is influencing the growth of the nutricosmetics market.

India is home to almost all kinds of plants ranging from tropical, subtropical and temperate zone plants. Also the advantage of knowledge based remedies give India tremendous leads in finding newer applications (because of Ayurveda) and has wide scope of studies.

CLINICAL EVIDENCE FOR USE OF NUTRICOSMATICS⁷

In a large survey conducted by Datamonitor, 40 percent of respondents stated they purchased a cosmeceuticals or nutraceuticals product when endorsed by a credible health expert (or association. As Nutricosmetics are the intersection between nutraceuticals and cosmeceuticals, this should not be ignored. Nutrient influences on human health have been studied for years and, particularly within the last few years, a growing body of impressive clinical data has shown a positive association between nutraceutical use and skin health. Along with advancing sophistication in manufacturing technologies and reliable science and expert endorsement, the Nutricosmetics sector has great potential in winning over skeptical consumers (if all tools are utilized effectively).

Nutricosmetics refers to nutritional supplements which can support the skin and function of the body. It is an emerging area of intense research and marketing and encompasses the concept that orally consumed dietary products can support healthier and more beautiful skin. There are numerous dietary ingredients now being marketed for their potential skin health and more beauty benefits and many of these are supported by growing scientific evidence.

PROMISING SKIN HEALTH AND BEAUTY INGREDIENTS^{3, 10}

Nutricosmetics digestible nutrients designed to enhance the appearance of hair, skin, nails and, sometimes, slim the body overall are big business. Following are few ingredients which widely used in formulations of nutricosmetics

- ✓ **Antioxidants** include Coenzyme Q10 superoxide dismutase, SOD enriched melon extract, selenium, zinc, copper, catalase, glutathione, peroxidase.
- ✓ **Polyphenolics** like resveratrol, green tea, grapeseed, pomegranate, blueberries may have free radical-scavenging activity for skin photo protection (especially when stabilized and combined with other anti-oxidants).
- ✓ **Turmeric** and its active ingredient, curcumin has photo protectant, anti-inflammatory and antioxidant properties.
- ✓ **Collagen** is a fibrous protein that makes up connective tissue that gives resilience to the skin. A popular ingredient within the Asian market and increasingly marketed in the US.
- ✓ **Fish oils** hydrate the skin; and its anti-inflammatory properties make it common within nutricosmetic formulations.
- ✓ **Plant-based ceramides**, sourced from wheat germ or rice bran, may help to combat skin dehydration and deterioration associated with aging.
- ✓ **Carotenoids** like lycopene, phytoene and phytofluene have strong photo-protective and anti-inflammatory properties.
- ✓ **Polypodium leucomotos** is a fern species; extracts show promise in human clinicals as an internal skin photo-protectant.

Others ingredients used are given follow:

- Vitamin A
- Vitamin C
- Vitamin E
- Omega-3 fatty acids
- Omega-6 fatty acids

- Pomegranate
- Aloes
- Green and Black tea
- Dates
- Grape seed extract
- Oral Photo Protective Nutrients
- Flavonoids
- biotin
- Amino acid complexes

Role of active ingredients in nutricosmetics:

- Collagen - Skin softness, minimize lines and wrinkles, skin moisture retention
- Antioxidants - Neutralise free radicals
- Flavones – Antiageings
- Lycopenes – Antioxidants
- Phytofluorene – Skin whitening
- Beta carotene – Skin softness

LEGISLATIVE SCENARIO³

Market of nutricosmetics is a growing as demand for these products is increasing. Currently due to lack of introduction and adaptation of nutricosmetics legislations are not more stringent and uniform. Following are few organizations which are under the process of framework for regulations towards development of nutricosmetics:

- Nutricosmetics Technology Summit
- FDA and EU regulations
- Dietary Supplement Health and Education Act (DSHEA)
- Adverse Events Reports (AER)
- Annual meetings
- EU soon to adopt average price levels across Europeaneconomic area.
- Regulating the prices of nutricosmetics.

NUTRICOSMATICS INDUSTRIES^{3,5}

Some of the companies operating in the global nutricosmetics market include,

- Ferrosan A/S,
- Sederma Inc.,

- Lucas Meyer Cosmetics,
- Provital Group,
- Vitabiotics Ltd.,
- Origo Cosmeceuticals Pvt. Ltd,
- Windmill Organics Ltd.,
- Isocell North America, Inc.,
- Unipharm, Inc.,
- Laboratoire Oenobiol S.A.S.,
- Laboratoire Biocyte,
- Amway, Nestle, Revlon, Danones etc...

Nutricosmetic industries in India:

- Ranbaxy Lab, Gurgaon
- Samis lab, Hyderabad
- Dabur, Ghaziabad
- Wockhardt Limited, Mumbai
- Lupin Pharma, Mumbai
- Himalaya Herbal Health Care, Bangaluru etc...

NUTRICOSMATICS IN MARKET⁵

Beauty drinks and pills are a global phenomenon and this isn't just a trend. Nutricosmetics provide beauty benefits from within. The benefits are above and beyond what you would obtain from just eating normal foods or applying surface products.

Nutricosmetics Dosage Forms

- Tinctures,
- Beverages,
- Powdered stick packs,
- Gummy bears or functional foods,
- Capsule or Soft gel
- Tablet

Following are few products in market:

➤ ***Nutricosmetics for Skin Lightening***

➤ **Glutathione & Vitamin C**

✓ Antioxidant

- ✓ Anti ageing action
- ✓ Skin Lightening Property



Figure 7: Nutricosmetics for Skin Lightening

➤ ***Supplement for skin***

➤ **CME Tab**

- 1st time in India-introduction in 100 mg
- Vitamin C is potent antioxidant thus helps in destroying free radicals
- Promote healthy skin
- Essential component for collagen synthesis
- Repaired damage skin
- Increase two more important antioxidants (Vitamin A and Vitamin E) levels in our blood
- Better patient compliance
- Vitamin C raises glutathione levels in red blood cells and lymphocytes
- Glutathione helps determine balance of light and dark pigments in our skin
- Taking high dose of vitamin C (1000-3000 mg) can help to lighten skin over time



Figure 8: Supplement for skin

➤ ***For Antiageing***

Along with Amino acid doctors are preferring capsule of Antioxidants which contains many natural extracts like Lycopene (Tomato extract), Green tea extract, Pycnogenol, Silica, Marine

extract, lemon extract, Hydrolysed collagen, grape seed extract etc. which acts as supplements for skin as well as hair. One such product available in market is Rejinov capsule which contains Natural antioxidants along with amino acid and Hydrolysed collagen. Other than antiageing many nutrients also acts as sunscreen agent from inside.



Figure 9: Supplement for antiageing effect (REJINOV capsules)



Figure 10: Content and effects of antiageing formula (REJINOV capsules)

➤ **Nutricosmetics for Hair**

- **Hair loss treatment** - for complete internal as well as external care. They consist of
 - Multi vitamin,
 - Minerals,
 - saw Palmetto,
 - PABA,
 - Enzymes like collagenase, etc
 - Amino acid etc. along with topical lotion/serum/oil and shampoo so that conditions should be taken care of



Figure 11: Supplement for Hair loss treatment

- **Premature graying** of hair many doctors are using Biotin supplement along with calcium Panthothenate, PABA and Zinc. Also some Drs are using Nogray Capsule which is a mixture of allopathy ingredients like calcium Panthothenate, PABA and Zinc along with natural herbal extract like – Eclipta alba, Amla extract, Curry Leaf extract, Neem extract as a supplement along with topical serum or lotion or oil.



Figure 12: Supplement for Premature graying

- **Nutricosmetics for weight reduction**
 - Antioxidant,
 - Glycerin,
 - Vegetable Cellulose,
 - Vitamin B12,
 - Folic acid,
 - Citrus acid,
 - Ambla extract,
 - caffeine and
 - Many fat burner supplements.



Fig. 12: Supplement for weight reduction

FUTURE TRENDS OF NUTRICOSMETICS^{3,5,12}:

At present, natural products are expensive compared to synthetic products but people are expected to shift their consumption from synthetic to natural products in the coming years. Growing consumer preference for green attributes in cosmetics, and health and wellness products is influencing the growth of the nutricosmetics market. The countries in the rest of the world such as South Africa, UAE, Brazil, Taiwan and others are untapped market and will offer substantial growth opportunity for manufacturers in the nutricosmetics market.

There is a great opportunity to tap when looked at the hugely unpenetrated and high potential market for male health and grooming products. At present nutricosmetics are primarily targeted at women aged 40 or above the group who are particularly concerned about health and wellness. But the trend is shifting with the concept gaining popularity among the younger women in age group 25-35 due to their cosmetic applications and ease of administration (saves time). The other significant driver for this market is the rising proportion of people aged 60 years and above. The number of geriatric people in the world is estimated to be more than double in the next forty years that will provide a large consumer base for the companies in this market. The nutricosmetics market is highly dynamic and the manufacturers in the market are required to resonate with the consumer requirements to stay in the market.

In India alternative medicine is well accepted and corporate like Dabur and Baidyanath have been successfully marketing a number of products. Indian market potential is huge and considering the possibility of exporting some of the native products, scope exists for new entrants into this area.

FEW PRODUCTS IN MARKET



Figure 13: Beauty powder drinks supplements



Figure 14: Skin nutrient supplements



Figure 14: Hair and nail supplements

REFERENCES

1. Sunita Kumar. Nutricosmetics: Boosting the Global Anti-Aging Market. Natural Products Insider. July 6, 2016.
2. https://www.amway-latvia.com/_files/.../Master_TRUVIVITY_PPT.
3. [www.hygeiajournal.com/.../690416386Nutricosmetics\[1\]%20\[Compatibility%](http://www.hygeiajournal.com/.../690416386Nutricosmetics[1]%20[Compatibility%20])
4. http://cosmetology-trichology.conferenceseries.com/speaker_pdfs/2015/anandmayi-priyadarshini-origo-cosmeceuticals-pvt-ltd-india_437008067.pdf.

5. Anandmayi Priyadarshini, J Clin Exp Dermatol Res 2015, 6:3.
6. http://www.nutraceuticalsworld.com/issues/Beauty-IO-2013/view_features/a-fresh-look-at-nutricosmetics-where-are-we-now.
7. paulasimpson.com/wp-content/uploads/2012/01/24-26-BusStrategies_Jan12.pdf
8. <https://zss-skincare.com/app/uploads/2015/03/ZSS-SFL-beauty.pdf>
9. http://www.nutraceuticalsworld.com/issues/2016-06/view_features/nutricosmetics-beauty-starts-beneath-the-surface
10. <https://www.businessoffashion.com/articles/intelligence/nutricosmetics-inside-out-beauty-super-elixir>
11. Jerome Asserin, Elian Lati, Toshiaki Shioya, B.Eng.& Janne Prawitt. Journal of Cosmetic Dermatology (Dec. 2015. 14(4):291-301).
12. https://www.google.co.in/?gfe_rd=cr&ei=F9LIWOj6DoKG2QSzmbSwCw&gws_rd=ssl#q=nutricosmatics+in+indian+market.



AJPHR is
Peer-reviewed
monthly
Rapid publication
Submit your next manuscript at
editor@ajphr.com / editor.ajphr@gmail.com