Back to Basics: A Review on Skincare by Ayurveda vis a vis Contemporary Science

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ABSTRACT

Skin is the largest part of integumentary system. It not only prevents diseases but also enhances the appearance. Humans have always been curious about young and glossy skin. But the prevalence of skin issues has increased since few decades. This has raised demand of over-the-counter cosmetic products. The market of cosmetics is reportedly growing in India. Though such products have aesthetic property, they may lead to adverse effects. Ideal skincare includes a range of practice done to keep skin healthy and attractive. So, it has both preventive and aesthetic value. Ayurveda literature contains a scattered but detailed description about nurturing the skin and keeping it healthy. Apt use of Panchakarma (biocleansing regimen), Rasayana (rejuvenation therapy), judicious incorporation of Pathya Ahar-Vihar (diet and lifestyle regimen) described along with local applications like Abhyanga (massage), Lepa (topical application of medicinal paste) is the soul of skincare in Ayurveda. This article focuses on collecting and studying Ayurvedic perspective of skincare in the context of contemporary science. It would help for better understanding of described modalities and effective skincare practice in today’s era.

Key words: Aesthetic, Ayurveda, Cosmetic, Prophylaxis, Skin, Skincare

INTRODUCTION

In India, the market of cosmetics is reportedly growing and is projected to register a Compound Annual Growth Rate (CAGR) of 4.23% over next five years.[1] These products are popular not only in females but also among males. Male skincare market is growing rapidly and steadily since past few decades.[2] Possible causes behind this growth are increased prevalence of skin issues and affirmative psychological impact of healthy, glowing skin. But these products have temporary effects and require frequent use making it less economical. Most of the cosmetics have long term side effects like allergic reactions, cancer, hormonal disturbances, etc. due to toxic contents like sulphates, parabens, phthalates, nickel, synthetic colors, etc.[3] Thus, such products perform better on aesthetic facet of skincare but fail in preventive one. Home skincare remedies, a part of folk medicine, have gained popularity through social media. But they may have side effects due to lack of scientific base. Therefore, these remedies do not fulfill the definition of skincare. Ideally, skincare is a range of practice done to keep skin healthy and attractive. It possesses both preventive and aesthetic value.

According to Ayurveda, internal health is essential to maintain external beauty. On the contrary, contemporary science focuses more on external applications for skincare. Ayurveda literature contains a scattered but detailed description about nurturing the skin and keeping it healthy. Apt use of Panchakarma, Rasayana, judicious incorporation of Pathya Ahar-Vihar described along with local applications like Abhyanga, Lepa, etc. is the soul of skincare in Ayurveda. The demand of Ayurvedic...
cosmetics is increasing day by day. But very few procedures like Lepa, Ubatan (body scrub) are becoming popular. All other modalities are need to be highlighted. The contents of herbal products can also be enriched with number of Dravya (drugs) having different Twachya (skincare) properties.

There is a lot of published work on effect of Ayurveda on skin diseases. But very less data is found on preventive and aesthetic aspect of skin in Ayurveda. This article is an attempt to explain the same. Also, this is a sincere effort to understand sequel of these remedies in terms of contemporary science. This can lead to thorough understanding ensuring effective Ayurvedic skincare practice in today’s era.

**OBJECTIVE OF THE STUDY**

To collect the scattered information about the concept skincare from Ayurvedic texts. Further also to search electronic databases for contemporary evidences so that the knowledge can be practiced in present era for preventive and aesthetic purpose.

**METHODODOLOGY**

The information was collected and structured in a narrative style with the help of four steps described by Demiris et al.[4]

1. **Identifying Keywords:** Various keywords used for the search are - Skin (AND) Ayurveda, Skincare (AND) Ayurveda, Skincare (AND) Panchakarma.
2. **Search Procedure:** Manual search for various aspects of skin health and treatment modalities for skincare was done though Ayurvedic texts including Charak Samhita, Sushrut Samhita, Ashtang Hridaya, Bhaishajyaratnavali, Bhavprakash. Search was supplemented by electronic databases like Google scholar, PubMed. Articles in English language were searched with no restriction on type of article.
3. **Review of abstracts and titles:** Appropriate literature was selected and reviewed to collect the data.
4. **Results documentation:** After reviewing the collected data, main text was structured in various subsections. New evidence-based points were summarized in the discussion section and scope for future research defined in the conclusion section.

**REVIEW RESULTS**

On reviewing of literature following observations were made:

**Concept of healthy skin and its variations**

Ayurveda decides skin health by Prakriti (biological constitution), Saar (characteristic helpful in deciding strength), Prabha (luster) and Varna (complexion). These parameters have following variations:

1. **Biological Variations:**
   - **Prakriti:**
     1. **Kapha:** People of this prakriti have pleasing, tender, soft skin and clear complexion.[5,6]
     2. **Pitta:** Skin of Pitta Prakriti people is hot, tender, with soft brown hairs. There are many freckles/moles/port wine marks on their skin.[3]
     3. **Vata:** These people have rough, dry skin which is more prone to cracking.[3]
   - **Saar:**
     1. **Twakasara:** These people have lustrous, smooth, unctuous skin with soft tender superficial body hairs.[7]
     2. **Raktasara:** These people have unctuous, red, beautiful, dazzling appearance of ears, eyes, face, nose, lips, nails, forehead, soles of hands and feet.[5]
     3. **Meda and Majjasaar:** These people have unctuous complexion.[5]
     4. **Shukrasaar:** These people have dazzling appearance with unctuous complexion.[9]
   - **Prabha/Kanti:**
     It is luster of the skin which is maintained by Bhrajak Pitta.[6]
   - **Varna:**
     Ayurveda has described four normal complexions Krishna (black), Shyama (dark), Shyamavadaat (intermediate in dark to fair), Avadaat (fair).[9]
II. Seasonal Variations:

1. **Adankaal (summer solstice):**
   There is gradual increase of Ruksha Guna (dryness) in Shishir (winter), Vasant (spring) and Grishma (summer) Ritu which results in dry skin.\(^{[10]}\)

2. **Visargakaal (winter solstice):**
   There is increased Snigdha Guna (unctuousness) in Varsha (monsoon), Sharad (autumn) and Hemant (late autumn) Ritu which results in oily skin.\(^{[9]}\)

III. Age-wise Variations and Abnormalities:

1. **Balyawastha** (childhood): This age group has Kapha Dosha dominance and weak immunity. Skin diseases like diaper rash, folliculitis, molluscum contagiosum, herpes zoster, chickenpox, measles, etc. are seen in children.

2. **Madhyamawastha** (middle age): This is the period of Pitta Dosha leading to skin issues like hyperhidrosis, oily skin, acne, comedones, blackheads, warts, melasma, dark spots, etc.

3. **Vriddhawastha** (old age): There is Vata Dosha dominancy in this age group. Skin problems like dry skin, itching, bruises, wrinkles, age spots and skin tags, skin cancer, etc. are prominent in old age.

Causes of skin abnormalities\(^{[11,12]}\)

1. **Ahara** (Diet):
   Abnormal dietary habits like Ati Ahara or overeating (as shown in table 1), Mithya Ahara or improper diet (as shown in table 2), Viruddha Ahara or faulty combinations of food items (as shown in table 3) have direct effect on skin.

**Table 1: Food items affecting skin health if taken in excess.**

<table>
<thead>
<tr>
<th>Category</th>
<th>Ayurvedic Nidana</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasa</td>
<td>Amla, Lavana, Katu</td>
<td>Chinese food, Pickle, Chat, etc.</td>
</tr>
<tr>
<td>Guna</td>
<td>Guru and Snigdha Ahara</td>
<td>Puri, Paratha, Pizza, Burger, Samosa, Kachori, etc.</td>
</tr>
</tbody>
</table>

**Table 2: Improper dietary habits affecting skin health.**

<table>
<thead>
<tr>
<th>Category</th>
<th>Ayurvedic Nidana</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods</td>
<td>Vidahi, Vidagtha, Upaklinna, Putianna</td>
<td>Hot and spicy, Rotten, putrefied, fermented food</td>
</tr>
<tr>
<td>Food pattern</td>
<td>Ajirna Bhojan, Asatmya Bhojan, Ati Bhojan</td>
<td>Eating before digestion of previous meal, food which is not compatible, overeating.</td>
</tr>
<tr>
<td>Faulty dietary sequence</td>
<td>Shitoshna Viparyay,</td>
<td>Simultaneous consumption of hot</td>
</tr>
</tbody>
</table>

Til is explained as Varnya (improving complexion) but it causes Kushtha (skin diseases) if taken in excess.
Psychological disturbance during meal

<table>
<thead>
<tr>
<th>Santarpan</th>
<th>Apatarpan</th>
<th>and cold food, satiating and emaciating food</th>
</tr>
</thead>
</table>

Santap | Excessive anger |

Table 3: Food combinations affecting skin health

<table>
<thead>
<tr>
<th>Improper quantity</th>
<th>Matra Viruddha</th>
<th>Ghee and honey in equal quantity</th>
</tr>
</thead>
</table>

Faulty methods of food preparation

| Samskar Viruddha | Improper way of food preparation like refrying food items (Eg. potato chips) in same oil |

Incompatible quality

| Veerya Viruddha | Ushna Veerya Fish with Sheeta Veerya milk |

Faulty instruments

| Paka Viruddha | Food prepared in utensils of low-quality meals |

Faulty combinations

| Samyog Viruddha | Unhealthy combinations like banana and milk |

Choice of a person

| Hrit Viruddha | Unpleasant food |

Table 4: Faulty lifestyles affecting skin health

<table>
<thead>
<tr>
<th>Category</th>
<th>Ayurvedic Nidana</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppression of natural Urges</td>
<td>Chhardi Anyavega</td>
<td>Suppression of vomiting</td>
</tr>
<tr>
<td>Environmental factor</td>
<td>Atapa Sevana</td>
<td>Excessive exposure to sunrays and wind</td>
</tr>
<tr>
<td>Over exertion</td>
<td>Ati Shrama</td>
<td>Overexertion</td>
</tr>
<tr>
<td>Physiological factor</td>
<td>Ratrijagraṇam</td>
<td>Improper sleeping times</td>
</tr>
</tbody>
</table>

3. Krimi (worms):

It is considered as one of the causes of skin disorders. [13]

Skincare Remedies Described in Ayurveda:

1. Nidanpariwarjan:

Avoidance of faulty dietary habits described above and proper daily regimen is important in protecting skin from various disorders.

2. Ahara:

Following food items are beneficial to skin[12]

i. Fruits: Dadima (Pomegranate), Amalak (Gooseberry), Parushak (Falsa), Mridwika (Grapes), Kharjura (Dates) are healthy for skin due to their Pittashamak and Raktashuddhikar properties.

ii. Cereals: Shali and Shashtika (a variety of rice) nourish skin due to their Tridosha-Shamak (pacify all the three Dosha) and Snigdha properties. Yava (Barley) is cures skin disorders due to its Sheeta, Ruksha property and Madhura rasa.

iii. Pulses: Mudga (Green gram) and Masura (Lentil) are Pittashamak and Raktashuddhikar (blood purifying). Chanak (Bengal gram) helps in improving skin complexion due to its Sheeta, Ruksha property and Madhura Rasa.

iv. Vegetables: Patola (Snake gourd) is Krimighna (wormicidal) and can help in prevention as Krimi are one of the causes of skin diseases. Kokamachi (Black nightshade) possess Rasayan property. Karavellak (Bitter gourd) is Pittashamak and Raktashuddhikar.

3. Abhyanga:

Daily practice of Abhyanga can prevent skin dryness in Adankaal. Ayurveda has described medicated oils to improve skin complexion and enhance skin glow:
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a) Kumkumadi Tail
b) Dwiharidradi Tail

c) Manjishtadi Tail
d) Kanak Tail

4. Snehapana:

Consumption of Sneha on regular basis improves skin complexion and prevents early ageing. Proper selection of Sneha should be done according to Prakriti and Ritu.

4. Udwarshan:

Smooth rubbing of skin with a paste of different Varnya Dravya gives fair, clear skin.

5. Lepa:

The process of application of various medicinal drugs' paste is called as Lepa. It should be ½ Angula thick for the purpose of increasing skin luster. Regular application of Lepa results in unctuous and glowing skin resembling with lotus.

Season wise Lepa:

Weather has direct effect on skin quality. Therefore, different combinations are explained according to season.

Hemant: Kolmajja (Ziziphus jujuba), Vrushingamula (Adhatoda vasica), Lodhra (Symplocos racemosa), Gour-Sarshapa (Brassica juncea).

Sishir: Simhimula, Krishna-Til (Sesamum indicum), Dwawitwak (Berberis aristata), Nistush Yava (Hordeum vulgare).

Vasant: Darbhamula (Desmostachya bipinnata), Karpura, Ushira (Vetiveria zizanioides), Shirisha (Albizia lebbeck), Saunf, Tandula (Rice).

Grishma: Kumuda (Nymphaea alba), Utapala (Nymphaea nouchali), Kalhar (Citrullus lanatus), Durva (Cynodon dactylon), Yashtimadhu (Glycyrrhiza glabra), Chandan (Santalum album).

Varsha: Kaliyaka (Coscinium fenestratum), Til, Ushira, Jatamansi (Nardostachys jatamansi), Tagar (Valeriana jatamansi), Padmak (Prunus cerasoides).

Sharad: Talis (Abies spectabilis), Gundra (Typha angustata), Pundarik (Nelumbo nucifera), Yashtimadhu, Tagar, Agru (Aquilaria malaccensis).

Table 5: Combinations improving skin glow on local application.

<table>
<thead>
<tr>
<th>SN</th>
<th>Churna</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Raktachandan, Manjishtha, Kushtha, Lodhra (Symplocos racemosa), Priyangu (Callicarpa macrophylla), Vatankura (Ficus benghanensis), Masura</td>
<td>Godugdha (cow milk)</td>
</tr>
<tr>
<td>2.</td>
<td>Shalmalikantaka (Bombax ceiba)</td>
<td>Godugdha</td>
</tr>
<tr>
<td>3.</td>
<td>Masura (Lentil) fried in Ghrita</td>
<td>Godugdha</td>
</tr>
<tr>
<td>4.</td>
<td>Daruvaridra (Berberis aristata), Nilkamal, Kushta, Badara, Priyangu</td>
<td>Dadhi (curd)</td>
</tr>
<tr>
<td>5.</td>
<td>Rakshaghna (Brassica juncea), Haridra (Curcuma longa), Daruvaridra (Berberis aristata), Gairik (red ochre)</td>
<td>Goghrita (cow ghee), Bastapaya (goat milk)</td>
</tr>
<tr>
<td>6.</td>
<td>Sharapunkha, Kamal, Kushtha, Raktachandan, Ushira</td>
<td>Dadhi</td>
</tr>
</tbody>
</table>

6. Shastikshali Pinda-Sweda:

Shastikshali is boiled in Godugha and various Varnya Dravya like Yashtimadhu, Sariva, Manjishtha used for Pindasweda. It provides Snehan (massage), Swedan (hot fomentation) and Brihan (nourishment) simultaneously. It cleans microchannels of the body and improves the circulation. Improves skin complexion and luster.

7. Panchakarma:

Shodhana with the help of various Panchakarma procedures helps to get rid of toxins and prevention of diseases.

a) Virechan (therapeutic purgation):

As vitiated Pitta causes Raktadushti which results in various skin diseases, Virechan should be done every year to eliminate vitiated Pitta from body.

b) Raktamokshan (blood-letting):

It should be done once a year in Sharad Ritu order to eliminate impure blood.
c) **Nasya (nasal drops):**

Daily practice of *Pratimarsa Nasya* results in healthy and fresh skin.[23]

8. **Use of Twachya Dravya (Drugs nourishing skin):**

Following is the list of *Dravya* having different skincare properties:

a) **Varnya Dravya:**

Following three groups of drugs have Varnya property:


b) **Rasayana Dravya:**

*Dravya* having revitalizing action on *Rasa, Rakta and Mamsa Dhatu* can affect quality of skin:[26]

i. **Rasadhatu:** Mantha Kalpana (medicated drinks)

ii. **Raktadhata:** Lauha, Tamra, Abhrak, Raupya Bhasma

iii. **Mamsa Dhatu:** Suwarna Bhasma, Kushmand, Bala, Nagbala, Shatavari.

c) **Vayasthapana Dravya:**

These drugs prevent ageing which results in healthy, fresh skin:

Guduchi (*Tinospora cordifolia*), Haritaki (*Terminalia chebula*), Amalaki (*Phyllanthus emblica*), Mukta (pearl), Shwet-Aparajita (white variety of *Citrorea ternatea*), Jiwanti (*Leptadenia reticulata*), Shatavari (*Asparagus racemosus*), Mandukparni (*Cenntella asiatica*), Shithra (*Desmodium gangeticum*), Punarnava (*Boerhaavia diffusa*).[27]

d) **Madhu (honey):**

It has *Tridoshashamak* and *Yogawahi* (bioenhancer) property. It can be used for skincare due to its moisturizing, rehydrating, healing, antioxidant properties.[27]

**DISCUSSION**

Considering impact of *Prakriti, Vaya, Ritu* on skin is a fundamental factor for skincare through Ayurveda. *Prakriti* is a phenotypic classification of human constitution and it has association with human genome.[28] Abundance of skin microbiome differs across different *Prakriti*.[29] *Vata* and *Pitta Prakriti* skin is less hydrated while *Kapha Prakriti* skin is well hydrated.[30] Thus, quality of skin depends on *Prakriti* which cannot be intervened. Also, *Vaya* (ageing), *Ritu* (seasons) are some other phenomena having direct effect on skin through parameters like hydration, pH, etc. The consequence of all these inevitable factors can be balanced with holistic approach like use of proper diet, lifestyle changes, *Panchakarma* and internal medicines.
Faulty diet and lifestyle cause disturbance of gut microflora. Paapkarma mentioned in causes of skin disease results in mental stress which also leads to disturbance of gut microbiota. This can lead to various skin abnormalities. Oily, heavy food, overeating and excessive stress also causes Rasavaha Srotas Dushti which in turn leads to early ageing of skin. Corrosive, oily, hot foods, excessive exposure to sunlight and fire cause Rakatvaha Srotas Dushti which cause skin diseases. Viruddahahar, eating before digestion of previous meal or during indigestion cause Raktaj Krimi which results in various skin manifestations. Therefore, Nidanpariwarjan is essential component for prevention and treatment of skin disease.

Abhyanga opens body pores and removes the toxins. It directly affects Keratocytes, Melanocytes, Mast Cells and Fibroblasts and have cytostablising effect on them. It should be strictly followed by Vata Prakriti people and in cold weather as Snidhha, Ushna Guna of Sneha balances Ruksha, Sheeta Guna and can avoid further complications.

Balanced Vata Dosha provides proper circulation of blood and nutrients to skin layers. Balanced Pitta Dosha is required for metabolic functions that coordinate chemical and hormonal reactions of skin. Balanced Kapha Dosha maintains skin moisture. Skin tone and luster depends on Bhrajak Pitta. In skin diseases, vitiated Pitta and Kapha Dosha causes Rasa and Rakta Dhatu imbalance. Virechan and Raktamokshan balance these Dosha and treat Raktavaha Srotas Dushti. Hence, prevents skin pathologies and improves its quality.

Local application of medicines in the form of Lepa, Pindaswedda, etc. helps in allergy control and maintains elasticity of skin and improves its complexion. Tyrosinase is an enzyme present in melanocytes responsible for melanogenesis. Varnya Dravya show antityrosine activity and hence work as skin lightening. Dravya having skincare properties like Varnya, Rasayan, etc. can be used in facewash, soap, face packs, creams, etc. These drugs if used along with contemporary drugs can create a scope for integrative practice in this field.

CONCLUSION

Present article focuses on enhancing the quality of skin. Demand of ayurvedic skincare products is increasing day by day. But it is limited to local applications and route cause is ignored often. This review highlights the importance and effectivity of all other modalities in the context of contemporary science. Clinical trials are necessary to explore further practical applicability of such treatments.

REFERENCES


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