



Polyherbal Anti-Ageing Cosmetics: The Major Players and Recent Market Trends

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ABSTRACT

Aging in humans is an invertible process that occurs at one stage of a person's life. This process is a result of continual damage of cellular DNA and protein and affects different parts of a person body. As result, to slow down the process, different polyherbal anti-aging cosmetics have been developed and set into market to address the process. Hence, this research was conducted with an objective to analyze the major polyherbal plants used, most preferred formulations and the players in the market through different pharmacological, pharmacognosy studies, recent cosmetic market trends and statistical data obtained from a survey in Haryana, India and Tanzania. It was found that, a lot of plants have emerged in the field but the commonly used were turmeric, *Aloe vera*, neem and jojoba. These anti-aging cosmetics have shown to play a vital role in the field having a vast number of benefits. As result, this work sets a ground for future development of advanced polyherbal anti-aging cosmetics after taking into account an analysis of the top herbal plants used prior to the major players in the market field.

Keywords: Aging, Antioxidant, Cosmetics, Polyherbal, Skin.

INTRODUCTION

Background

Aging is a universal concern, linked to aging are a series of physiological and pathological processes of which bring change in skin turnover, quality, and regenerative potential. Skin aging has long been viewed as more of an aesthetic problem than as a real functional health problem¹. Natural phytonutrients, microbial metabolites, dairy derived active mineral nutrients and animal protein play a major role and have been beneficial to improve a healthy skin^{2,3}. As result, the expanding range of natural components has mainstreamed the development of cosmetic products that support healthy skin².

Objective

Recent scientific evidences have served to strengthen the concept of different phytocomponents and validate their efficacy at the molecular level in keratinous tissues. Successful findings, along with successful clinical studies, have helped to establish the healthful role of different chemical components that have managed to play a significant role in cosmetic industry. Hence this research was conducted to analyze the major polyherbal plants used, most preferred formulations and the players in the market through different pharmacological, pharmacognosy studies, recent cosmetic market trends and statistical data obtained from a survey in Haryana, India and Tanzania taking into comparison of both countries' anti-aging cosmetic field. It aimed to set a new diverse dimension for the upcoming development of more polyherbal cosmetics that meet the demands of this global challenge.

Draft report

This report has been prepared from the compilation and exhaustive analysis of different data obtained from the respective sources.

1. **Primary source**, hence a survey was conducted from a number of people residing in Haryana, India and Tanzania to address their views on this global challenge. This was carried out through personal interviews, telephone interview method and a mail survey.
2. **Secondary source**, through different pharmacognosy, pharmacological studies and recent cosmetic market trends.

As a result of using these sources, the possible reviews of different polyherbal anti-aging cosmetics and the major players in the market field were analyzed.

MATERIALS AND METHODOLOGY

Primary source

The research was carried out from data that was collect from a survey conducted in Haryana, India and Tanzania. A number of individuals ranging from different age categories' were interviewed to give their possible feed backs regarding polyherbal anti-aging cosmetics.

Personal interview

A questionnaire was prepared to address different opinions and facts regarding polyherbal anti-aging cosmetics. The following were taken into consideration.



1. Personal details of the customer including age, gender and occupation.
2. Complete satisfaction and use of these anti-aging cosmetics by the customers.
3. The nature and type of formulations preferred by the customers in the particular area.
4. The name and brand of the products that are commonly in use.
5. The core ingredients mainly polyherbal plants mainly used to formulate the anti-aging cosmetic.

Sample of questionnaire below

QUESTIONNAIRE

PLEASE SPARE FEW MINUTES OF YOUR TIME TO ANSWER THESE QUESTIONS

Name _____

Age _____

Gender M _____ F _____

Occupation _____

1. Are you a satisfied and frequent user of anti-aging cosmetics? (tick any suitable)

yes _____ No _____

2. How often do you use these anti-aging cosmetics ? (tick any suitable)

Daily _____ Weekly _____ Monthly _____ None _____

3. Please specify which type of cosmetic formulation below. (tick any suitable)

Cream	Oil
Lotion	Gel
Serum	Any other i.e.

4. Describe the nature of formulation, (tick any suitable)

Natural Semi synthetic _____ Synthetic _____

5. Identify the name(s) and brand(s) below

Name(s) _____

Brand(s) _____

6. What are the core ingredients of the anti-aging cosmetic you are using, if any _____

Can't say

THIS DATA WILL BE USED FOR RESEARCH PURPOSE ONLY

THANK YOU!

Telephone and mailed interview

This was also carried out for the residence of Tanzania to address the above categories. Based on their feed backs, a discussion was conducted to analyze the following,

1. The brands and leading formulations preferred by these residences.
2. The common plants that are mostly used for formulation anti-aging polyherbal cosmetics.
3. Common adverse reactions and benefits the customers have experienced upon using these polyherbal anti-aging cosmetics.

Retailers interview

Similarly the major retailers and suppliers in this cosmetic field were questioned based on the following,

1. The brand and type of polyherbal anti-aging cosmetics commonly purchased by their customers.
2. The nature of market challenges they face on selling these cosmetics.
3. The recent market trends pertaining the current brands in the cosmetic world.
4. A brief view on the top leading brands in the polyherbal anti-aging cosmetic world.

Secondary source

Information was generally gathered and obtained from different Pharmacognosy and Pharmacological journals, books and publications to account on the theoretical nature of different polyherbal plants that have been assessed prior to feedbacks given by the primary data collected earlier. This mainly accounted for,

1. The biological and chemical nature of the polyherbal plants that makes it suitable for anti-aging purposes (Pharmacognosy of the plants).
2. The different pharmacological actions each plants exerts upon application and use as an anti-aging cosmetic ingredient.
3. Outlined the nature of formulations used in preparing these anti-aging cosmetics.

Market analysis

This was conducted based on primary and secondary data obtained from both sources. But the recent cosmetic trends were mainly taken into consideration based on the current marketing field and information collected from the respective agents, organizations and relative cosmetic marketing journals and publication survey. All together combined made the analysis process to be carried out effectively.



Data representation

The most possible method employed for representation of the data collected in comparison to both countries was through statistical graphs and charts. These included Pie charts, histograms and tablets that will clearly show the nature and percentage nature of the data obtained per gender in both areas. This played a significance to highlight and make a relative comparison based on different aspects.

RESULTS AND DISCUSSION

Polyherbal cosmetics include drug formulations in which its main components are obtained from a respective plant source. Under this category, different chemical components showing maximum therapeutic effect have isolated from the respective plant herbal plant to obtain the desired drug formulation^{4,5,6}.

Advantages of Polyherbal Cosmetics

- They are known to express high effectiveness in a vast number of diseases. As aforementioned, the therapeutic effects of herbal medicines are exerted due to the presence of different phytoconstituents and the effects are further potentiated when compatible herbals are formulated together in PHFs⁷.
- PHFs are usually found to have wide therapeutic range. Most of them are effective even at a low dose and safe at high dose, thus they have superior risk to benefit ratio⁶.
- Generally show result in fewer side effects as compared to allopathic drugs.
- They are relatively cheaper, eco-friendly and readily available than allopathic drugs. Thus increasing demand globally, especially in rural areas and some developing countries.
- PHF are more readily acceptable culturally and socially⁶.

Example of different recent market formulations.

- Creams, such as Patanjali, Jovees cream product, VLCC anti-aging cream, Lotus herbal, Himalaya herbal anti-aging cream, Biotique botanicals cream.
- Oils such as Dr Juneja's skin oil, olive oil extracts, Keshkanti skin oil, Khadi Sandal Essential oil, Argan oil, Kiehl's midnight recovery
- Gels, example Patanjali Aloe vera gel, Lotus Herbals youth Rx, Just Herbs Plump up Anti-wrinkle gel.
- Lotions, include Jovees premium care lotion, Vaseline age defying lotion, Renewal face lotion.

- Serums, Reservatol serum, vitamin serum, Ponds anti-wrinkle serum, Kumkumandi miraculous ayurvedic night serum, VLCC.

THE MAJOR PLAYERS IN THE ANTI AGEING WORLD

Hence it was observed the following from the data that was collected in this research.

In Haryana India

The major players in the anti-ageing polyherbal world of cosmetics can be summarized below Tab 1, as per pharmacognosy of plant source and its pharmacological actions being highlighted as well

Table 1: The major players in Anti aging polyherbal world^{4, 8,9,10}.

	PLANT SOURCE	GENERAL ANTI AGEING ACTIONS
1	<i>Curcuma Longa</i>	Protects from sun damage, helps reduce risk of skin cancer, helps heal wounds, delays the appearance of aging, fades hyperpigmentation, helps in treatment psoriasis ⁸ .
2	<i>Aloe vera</i>	Prevents signs of aging, moistures the skin, reduces acne and stretch marks. It also helps with sun burns and heal tans. The compound has been employed in the treatment of insects bites.
3	<i>Panax quinquefolium, Panax ginseng, Eleutherococcus centipoides</i>	It rids your skin of the free radicals, increase the production of collagen in the middle layer of the skin. This collagen makes your skin more elastic and toned, thereby diminishing wrinkles or fine lines on the face and other body parts ¹¹ .
4	<i>Centella asiatica</i>	Plays a major role in skin rejuvenation by treatment of varicose veins and broken capillaries that bind to the fat cells under the skin and generally result into skin aging.
5	<i>Pomegranate Sps.</i>	Punicalagins are extremely and powerful antioxidants.
6	<i>Crocus sativus</i>	An active ingredient with marked lipid-lowering effect, the picroside is a bitter substance and anti-ageing effects.
7	<i>Apis dorsata</i>	It softens burn and scars, relieves it from skin dryness, nourishes the skin and prevents it from photo induced aging due to direct UV radiations.

General antioxidants

Polyherbal natural antioxidants that quench the occurring free radicals are essential components of any anti ageing formulation. These particularly offer protection against



damage to the skin tissues and against the detrimental effects of the environment and other agents. However, It seen that Natural "anti inflammatory" antioxidants are

highly recommend in polyherbal ant aging formulations in order to soothe, heal and protect skin tone and integrity³. Examples include below in table 2,

Table 2: Example of Antioxidant Plants used in Polyherbal formulations^{12,13,14}

	PLANT	GENERIC SPECIE	ANTIOXIDANT
1	Green tea	<i>Camellia sinensis</i>	Polyphenols
2	Grapes	<i>Vitis vinifera</i>	Anthocyanins
3	Grape seed	<i>Vitis vinifera</i>	Proanthocyanins
4	Indian gooseberry	<i>Phyllanthus emblica</i>	Gallotannins
5	Red wines	<i>Carbernet mitos</i>	Resveratol

Other plants containing antioxidant activity include,

- **Lemon, *Citrus limon***, It's a yellow fruit used for different purpose in the world but has shown to be a major player in the development of polyherbal anti ageing¹⁵. Lemon contains numerous phytochemicals such as terpenes, polyphenols, tannins, essential vitamins, carbohydrates, fat and a variety of minerals.
- **Papaya, *Carica papaya*** a plant obtained from the family Caricaceae¹⁶. It contains alpha hydroxyl acids act to break down proteins and dissolve the dead skin cells, it also vanquish pimples and acne.
- **Neem, *Azadirachta Indica*** has biological active compounds that include alkaloids, flavonoids, triterpenoids, phenolic compounds, carotenoids, steroids and ketones, biologically most active compound azadirachtin A-G and azadirachtin E is more effective¹⁴.
- **Coffee berry, *Rhamnus californica***. As compared to green tea and pomegranate, Coffee berry has shown to have a potent and powerful antioxidant capacity of 150% times greater. This makes it a potential plant to play a vital role in anti ageing cosmetics world⁷.
- **Jojoba, *Simmondsia chinensis***, is a shrub that is grows in dry regions of northern Mexico. Jojoba oil and wax are produced from the seeds and used for medicine.

In Tanzania

A large number of plants also came up from the data collected regarding the polyherbal plants used in formulating these anti aging cosmetics but resources revealed that the following plants played a major role in the ant aging cosmetic world, Hence in Fig 5 below

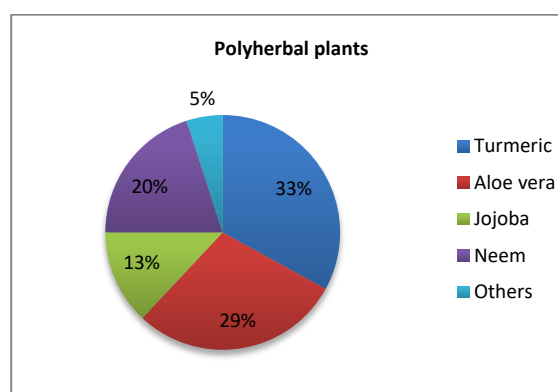


Figure 1: Shows the major polyherbal plants commonly used in Tanzania.

RESULTS

It was shown that in both case of study the following plants were mainly used by both countries having benefits to the skin,

Turmeric, pharmacological benefits include protects from sun damage, helps reduce risk of skin cancer, helps heal wounds, delays the appearance of aging, fades hyper pigmentations, helps in treatment psoriasis.

Aloe vera, mainly prevents signs of aging, moistures the skin, reduces acne and stretch marks. It also helps with sun burns and heal tans. The compound has been employed in the treatment of insects bites.

Jojoba, It is used in the treatment of Alzheimer disease for patient suffering from that condition. When rubbed topically on the skin, it helps treat conditions such acne, eczema, sunburn, psoriasis that affect the skin. It is also helpful in the prevention of pre mature and photo induced ageing that is likely to occur on the skin after exposure to UV radiations.

Neem, Extracts from young flowers and leaves have strong antioxidant potential. . Neem is a rich source of Vitamin E, a powerful natural antioxidant, class of reagents that neutralizes free radicals and thereby prevents tissue damage and wrinkle formation. Also as rich source of omega-6, omega-9 fatty acids and palmitic acid, its oil extracts are highly effective in repairing skin damage and thus keeping them from premature aging.

Recent Market Trends

The Leading Brands, Based on a research survey conducted in Haryana, India, it was studied that most of the users had specific brands they preferred as result different formulations are made into which the specific active natural ingredients can in cooperated to produce a desired product to cater for this global challenge. Hence summarized in the figure below Fig 1.

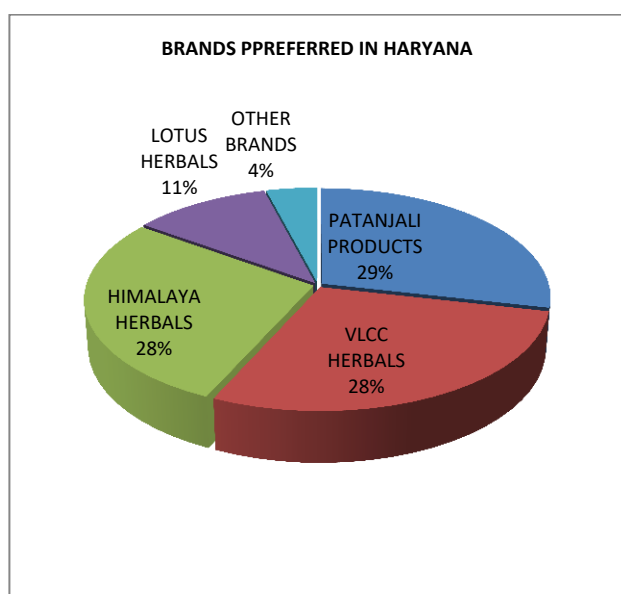


Figure 2: A pie chart showing The Preferred Polyherbal Brands in Haryana

Other brands, There are brands that are also preferred and used by the locals in Haryana, for different therapeutic actions on the skin include tab 3.

Table 3: Other Brands Used by the people

	Others	4.1% (Total)
1	Jovees	1.6 %
2	Forest Essentials	1.2 %
3	Biotique Bio	0.8 %
4	Khadi Herbals	0.5 %

Example of Common brands in Tanzania, these natural polyherbal brands include love touch Manjano, Shear illusion products, Carotein, Clear essence products, Ayumi naturals and many more.

Rational use

In Haryana, Based on the type of skin, anti-aging cosmetics have been employed for various application by

the respective customer. The polyherbal anti aging cosmetics can fall under the following respective categories¹⁷.

Creams

Is a topical preparation usually for application to the skin. They are semi-solid emulsions of oil and water. They are divided into two types:

- Oil-in-water (o/w) creams which are composed of small droplets of oil dispersed in a continuous phase.
- Water-in-oil (w/o) creams which are composed of small droplets of water dispersed in a continuous oily phase.

Advantages over other formulations

- They gives prolong contact in their site of application than any other pharmaceutical semi-solid dosage forms.
- They are not stick in nature, so easily washable
- Skin surface area can be dried quickly by creams than other semi-solid preparations.
- They have three dimensional (3D) thicksotropic properties. Applying pressure cause breakdown of this 3D structure.
- Non-irritating when applied to the skin.
- Not expensive.

The nature and effect of creams was found to categorized into the following effects below,

- **Moisturizing creams,** these are mainly made for customers with dry skin conditions. They have the ability to moisturize the skin making it soft and less age defying in nature.
- **Nourishing creams,** they add nutritive value to skin of the respective customer. These creams are entirely polyherbal and come under natural plant ingredients. Upon application, the skin becomes healthy and less age defying as well.
- **Revitalizing creams,** mainly used to prevent ageing cause by different factors. Customers prefer using these products because they set back the original nature and elasticity of the skin. Hence renewing its appearance.
- **Night creams,** application is made on the skin before sleeping. They have a skin repairing effect that also makes the customers skin healthy.
- Others include hydrating creams, sunscreen creams.

From the data survey conducted in Haryana, India, the following data was obtained from both genders showing different rational use of with respect to creams

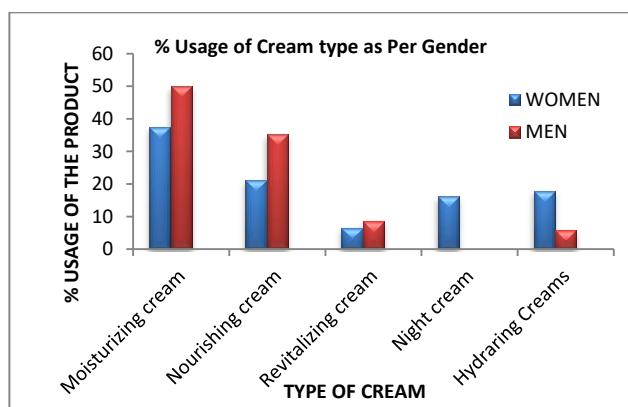


Figure 3: A graph showing the Rational use of creams in Haryana

Hence from the data, it can be concluded that

A large number of the population lead by men prefer using moisturizing cream, this shows that customers are observed to be affected by dry skin conditions. This factor can be triggered by different reasons such the current weather and climatic conditions in the area, effects of UV radiations.

However, age defying creams such as revitalizing cream, night creams are mostly used by women over men though not very often by a number of population. This may be due to women's preference to enhance their beauty and look younger.

Men in the society do not prefer using night creams as compared to the overall women population.

Nourishing cream is also a preference in both cases. Due to its ability to provide the skin with a lot of nutrients that keep it healthy and prevent it from prevent premature aging.

Hence, the cream plays a major role in recent polyherbal formulation trends as per Haryana data obtained.

Comparison to other formulations in the market.

A summary showing the preference of other formulation trends in market in comparison to other formulations was also obtained from data collected in Haryana, as graph below in a table showing the % usage of each formulation per gender.

Lotions

Generally are smooth liquid preparations made for topical application. They can cater for medicinal or cosmetic use depending on the customers purpose. Polyherbal body lotions formulations play a major role in the marketing world for the following reasons,

- They are inexpensive in nature
- Can be easily applied on the skin minimum force of application.

- They general dry up fast, less viscous in nature and provide a good smoothing effect on the surface of the skin.
- The contact time of the medicament and active lotion ingredient on the skin is generally maximum. Hence once applied on the skin surface, they are long lasting in nature.

A graph of % usage of each formulation per gender

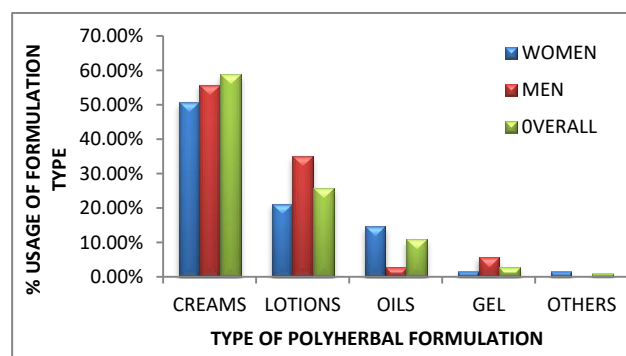


Figure 4: A graph showing formulations used in Haryana.

From the graph,

In comparison to other formulations available in the market, a large number prefer using creams followed by lotions as compared to other available formulations.

Extended survey, A survey was also conducted to compare the polyherbal anti aging cosmetic trends from Tanzania as summarized below in Figure 4.

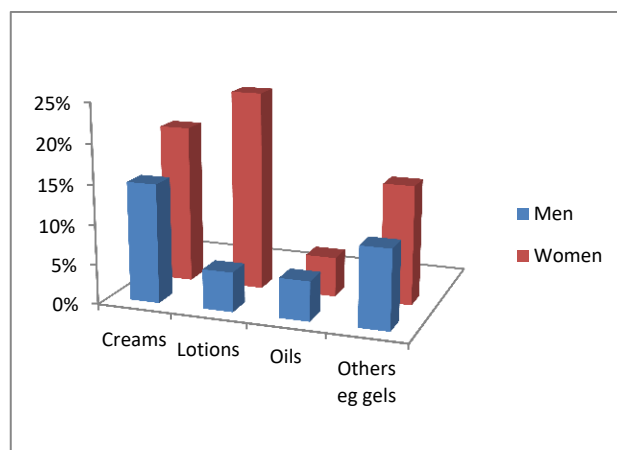


Figure 5: Shows the range of formulations preferred by Tanzanians

Hence from the data, It shows that creams and lotions are mostly preferred formulations as compared to the polyherbal formulations in the market.

Tanzanians have a skin nature that is made of high melanin content and thus makes it a challenge towards selection of suitable anti aging product to be applied on the skin.

This data collected show the rate of creams applied on the customers body was higher in both cases of gender. However women mostly apply them as compared to men in both cases. Reason, it may be due to the creams

advantageous nature to highly in cooperate different polyherbal components making user friendly and applicable to the skin.

Result, This shows that as the most suitable formulation preferred in the market, creams have passed the survey and are highly being manufactured and produced by the leading cosmetic companies to cater for the demands of the people.

CONCLUSIONS

The polyherbal anti-aging cosmetics formulations that were highly preferred by both genders from both nationalities included creams and lotions. Furthermore, it is shown that the leading polyherbal formulations included at least one of the following plant extracts:

1. Turmeric
2. Aloe
3. Neem
4. Jojoba

As a result, by knowing the major brands in the market, it sets a new foundation for the development of more advanced polyherbal anti-aging cosmetics to address the customers demand. Also this research provides information that will be helpful for different brands and companies taking an endeavor for investment in this field.

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