



## A Study on the Usage of Herbal Anti Acne Cream among the Different Youths of Sikkim.

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### ABSTRACT

One of the most prevalent chronic inflammatory diseases of the pilosebaceous follicles is acne caused by androgen-induced sebum hyperplasia, follicular keratinization, hormonal imbalance, immunological hypersensitivity, and bacterial colonization that mainly occurs in adolescents and young adults. Topical, systemic, hormonal, herbal, and combination therapies are frequently employed to treat acne. One of the most preferred treatments adopted by youngsters for acne is herbal remedies that can be effective and safe. A variety of range of products is available in the market today that is attracting youngsters for its effective use and without any adverse effects. Most of these products are quite affordable and are available with the required quantity of pack size. Youngsters especially in the hilly region have different interests and try to identify the right way to treat acne and look a better version of them while at the same time they also focus on their budget. This study focuses on the usage of different brands of herbal anti-acne cream by young people in Sikkim to treat acne vulgarism. This framework provides an excellent description of the different brands available in the Himalayan region and the interests of different individuals who aspire to be fit, healthy and attractive.

**KEYWORDS:** Acne, Herbal, Anti-acne cream, Youth, Sikkim.

### I. INTRODUCTION

The human body's skin is the most exposed component. The constant exposure of human skin to ultraviolet (UV) radiation, pollution, dust, and chemicals, among other things, causes a variety of skin problems. Acne, pimples,

hyperpigmentation, and sunburn are few examples. The most common follicular skin disorder is acne vulgaris (acne). Mostly affects the face's pilosebaceous follicular unit the head, neck, and trunk. Acne is one of the most common chronic inflammatory disease<sup>[1]</sup> of the pilosebaceous follicles involving androgen-induced sebaceous hyperplasia, follicular keratinization, hormonal imbalance, immune hypersensitivity, and bacterial colonization.<sup>[2]</sup>

Particularly for teenagers and adolescents, acne vulgaris is a concerning problem. Global statistics show that over 85% of people will experience this skin condition between the ages of 12 and 25. At ages 23 and 34, nearly 8% of individuals will experience acne vulgaris, and only 3% of adults will experience it between the ages of 35 and 44.<sup>[3]</sup> The course of acne treatment is determined by its severity. Patients with severe acne, characterized by widely dispersed pustules and papules, are typically offered oral and topical treatments.<sup>[4]</sup> Over \$1 billion is reportedly spent annually in the US on acne-related medical visits and treatments, according to a 2001 survey. It should be noted that these treatments are only means of controlling the follicular disease rather than a cure.<sup>[5]</sup>

Seborrhea (excess grease), inflammatory lesions (papules and pustules), non-inflammatory lesions (open and closed comedones), and varying degrees of scarring from cyst formation are among the clinical symptoms of acne. Acne can be divided into two categories based on the type of lesion: inflammatory acne (mild, scarring, and nodular acne) and non-inflammatory acne (only comedonal acne). Acne can be divided into three categories based on severity: mild, moderate, and severe. Open and closed comedones (<20), inflammatory lesions (<15), and a total of lesions not more than 30 are considered to be symptoms of mild acne.



Similar to mild acne, moderate acne is characterized by the presence of comedones (20–100), inflammatory lesions (15–50), and total lesions (30–125). Extensive lesions, such as nodules and cysts along with scarring (>5), total comedone count (>100), total inflammatory count (>50), and the total number of lesions greater than 125, are indicative of severe acne.<sup>[6]</sup>

Low stomach acid is a prevalent finding in acne patients, according to several research. This shows that treating acne vulgaris may benefit greatly from the traditional usage of bitter herbs, which work by promoting digestive processes, particularly the generation of acid. Herbs that include antibacterial, anti-inflammatory, anti-comedogenic, and, occasionally, hormone-balancing properties are also effective in treating acne.<sup>[7]</sup> Evaluation and improvement of a population's teenage health is a crucial step toward achieving a healthier adult population. Acne can alter one's appearance, but it can also have harmful consequences, and effects on adolescent's psychological well-being. Unfortunately, acne patients may suffer for years before being referred to a specialist or receiving appropriate treatment and the majority of them do not seek treatment at all. For acne management, seek medical guidance as a result, there is a need for population-based studies in which the effect can be measured. The effects of acne on mental health and perceptions of reliable measures were used to investigate the situation. Such inquiries attract the adolescents' attention to the topic. Even this could be helpful as a first step toward seeking treatment for the treatment of acne. Acne treatment admissions can be expensive if adolescents learn more about it, their interest will be piqued. There is a considerable body of knowledge in the fields of basic science and clinical medicine.<sup>[8]</sup>

Depending on the kind of acne and its accompanying symptoms, conventional topical treatments for AV mostly involve antibacterial agents, reducing sebum secretion, boosting cellular turnover, anti-inflammatory agents, and in situations of severe AV, oral antibiotics<sup>[9]</sup>, retinoids<sup>[10]</sup>, and hormone therapy<sup>[11]</sup>. However, using traditional treatments can result in treatment costs that are too high, severe side effects, and resistance to antibacterial drugs. Herbal remedies, on the other hand, have been used for decades to treat AV with fewer adverse effects and greater patient compliance. Their primary modes of action stem from their antimicrobial, anti-inflammatory, and anti-erythematous properties. Additionally, certain plant-based substances demonstrated anti-

inflammatory<sup>[12]</sup> and antioxidant properties.<sup>[13,14]</sup> The four primary pathophysiological elements that contribute to the development of acne are sebaceous hyperplasia and hyperproduction; sebaceous duct hyperkeratinization; bacterial colonization and proliferation, mostly by *Cutibacterium acnes*; and inflammatory response.<sup>[15]</sup>

### Symptoms of Acne

Inflammatory acne - Papules, Pustules and Nodules  
Non- Inflammatory acne - Blackheads and Whiteheads

Social Symptoms - Anxiety and depression, Loss of self-confidence, and may withdraw from society.<sup>[16]</sup>

### Causes of Acne

1. Hormonal Stimulation – Hormones play an important role in causing acne. An increase in hormones such as androgen in males and females during puberty causes the enlargement of sebaceous glands and makes more sebum that results in the formation of acne. The underlying reason could possibly be excessive testosterone or polycystic ovarian syndrome (PCOS).
2. Diet – The intake of food plays a major role in the health of an individual. The appearance of acne usually deteriorates by consuming food rich in carbohydrates and fats. If you eat a lot of non-nutritious meals like takeout, chocolate, and sweets, your body isn't obtaining enough nutrients. This type of diet might also aggravate a skin type that is already temperamental.
3. Medication- Intake of medicine causes various side-effects, medication containing corticosteroids, lithium, or testosterone can result in the formation of acne.
4. Stress – Stress usually doesn't cause acne, but research has shown that stress triggers hormonal changes that will result in the worsening of the acne. Stress is so detrimental to the body in every aspect that it is thought that it can trigger the release of cortisol. This is a hormone that causes your body to create extra oil, clogging pores and aggravating acne.<sup>[17]</sup>

### Herbal treatment of acne

Herbal cosmetics are made with a base consisting of a variety of approved cosmetic ingredients, over which one or more herbal compounds are added to achieve specific cosmetic effects.<sup>[18]</sup> Treatment for the acne is carried out by using herbal plant extracts from the ancient period. Herbal remedies usually have lower side effects



than the synthetic product. Herbal plants possess antibacterial<sup>[19]</sup>, anti-inflammatory and antiseptic properties<sup>[20]</sup>. These properties of herbal remedies help in reducing acne-causing bacteria, inflammation and heal blemishes.<sup>[21]</sup> Herbal drugs are better than synthetic products because they possess less toxicity and provide better therapeutic action.<sup>[22]</sup>

## II. METHODOLOGY

The study was conducted through a survey of youths of Sikkim, who were suffering from acne. We also visited various pharmacy stores in Sikkim to gather information about the availability of herbal anti-acne cream. The information about the acne-like product they have been using, and the side effects of the product were surveyed among the youth of Sikkim. This method was found to be effective.

The questionnaire consists of the following parts:

1. Which are the herbal anti-acne creams you usually use?
2. Whether they were effective?
3. For how long have you using the herbal anti-acne cream?
4. What difference do you find between the herbal anti-acne creams from the synthetic cream?
5. Do you prefer herbal anti-acne cream over synthetic cream? Why?
6. Did you use this cream you used for the first time? If No, what was the product you used?
7. What are the side effects have you faced while using herbal anti-acne cream?
8. Are they cost-effective than synthetic products?
9. Are they easily available?
10. What is the goodness of the herbal anti-acne cream you use?
11. Are you satisfied with the pack size?

The survey was conducted in two phases. In phase I, the survey was started by focusing on school and college students of Sikkim, then on random youths. The survey was done among 179 individuals of Sikkim of different districts by a simple explanation of the study was followed by the questionnaire. It was done in Pharmacy stores of different districts of Sikkim covering important cities namely Gangtok, Namchi, Geyzing, Mangan, Jorthang, Soreng, and Singtam to gather information about the availability of herbal anti-acne cream, the most used herbal anti-acne product by youth, etc. In Government Pharmacy College,

Sajong a survey was conducted among 59 students who were using herbal anti-acne cream for acne. The students were having acne from mild to severe. Out of 59 participants, 55 were girls and 4 were boys. The remaining 120 surveys were conducted among students of different colleges and random youths.

In phase II, the survey was focused on students of different schools and colleges in remote areas of different districts of Sikkim. The survey was conducted among 204 individual students of Sikkim. Similarly, like phase I, the survey was conducted with a simple explanation about the study followed by the questionnaire. Out of 204 students, 181 students were girls and 25 were boys. In total 383 surveys were conducted among students of different colleges in Sikkim followed by random youths. Out of which 331 participants were girls and 52 were boys.

## III. FINDING AND DISCUSSION

A total of 383 surveys were conducted out of which 331 were girls and 52 were boys between the age of 19 to 35. The result data showed more prevalent and severe in girls than boys, the major factors implicated among causes of acne were food, bad skin hygiene, and hormones in decreasing frequency. Several benefits of using herbal anti-acne cream were recorded during the survey-

1. It has less side effects,
2. Suitable for all skin types,
3. It is obtained from natural ingredients,
4. It is inexpensive
5. It has a good soothing effect and provides the desired results.

The top five herbal anti-acne creams used by the youth of Sikkim were as follows-

1. Himalaya acne-n-pimple cream
2. Biotique spot-correcting anti-acne cream
3. Himalaya clarina anti-acne cream
4. Khadi Natural Anti-acne cream
5. Vicco turmeric skin cream for anti-acne

Around 70% of the participants in the survey were satisfied with the pack size remaining 30% were unsatisfied with the pack size of the herbal anti-acne cream. From the survey, it was found that for at least 9 months the participants were using the herbal anti-acne cream to get the desired results. Herbal anti-acne cream prescribed by the doctor-OMNI herbal anti-acne cream, Himalaya pimple clear cream, and Ayurvedic active acne-free



**INGREDIENT OF TOP FIVE USAGE PRODUCT WITHIN SIKKIM**

| SL.NO | PRODUCT                                   | INGREDIENTS   |
|-------|---|---|
| 1     | Himalaya Acne-N-Pimple Cream              | Aloe Barbadensis, Stearic Acid, Glyceryl Sterate, Sorbitol And Water  |
| 2     | Biotique Spot-Correcting Anti-Acne Creams | Daru Haldhi, Choti Dudhi, Gandhpura Neem And Cream Base               |
| 3     | Himalaya Clarina Anti-Acne Cream          | Barbados Aloe, Almonds And Indian Madder                              |
| 4     | Khadi Natural Anti-Acne Cream             | Neem Extract, Basil Extract, Teatree Oil, Turmeric And Clove Extract. |
| 5     | Vicco Turmeric Skin Cream For Acne        | Stearic Acid, Turmeric, Sorbitol, Methyl Paraben, Sandalwood Oil.     |

Table 1: Ingredient of Top Five Usage Product

The below data in Table 2-12 are from different districts of Sikkim namely Gangtok, Geyzing, Namchi, Mangan, Singtam, Dentam, Soreng, Legship, Ravangla, and Jorthang and collected all the information regarding the availability of herbal anti-acne cream, the most herbal anti-acne cream used by youth. The list of herbal anti-acne creams collected is as follows.

**Table2: Lists Of Herbal Products Found In Geyzing, West Sikkim**

| SL.No | PRODUCT NAME   | PACK SIZE | PRICE  |
|-------|--|-----------|--------|
| 1.    | Mama Earth Bye Bye Acne Blemishes Face Cream                 | 30GM      | RS.412 |
| 2.    | Vicco Turmeric For Clear Skin Cream                          | 60GM      | RS.410 |
| 3.    | Schloka Anti-Acne Whitening Cream, Lemon And Turmeric        | 100GM     | RS.270 |
| 4.    | Modicare Purifying Neem And Gotukola Face Cream              | 100GM     | RS.184 |
| 5.    | Velvana Aleovera Gel For Acne                                | 100GM     | RS.185 |
| 6.    | Bella Vita Organic Anti-Acne Face Gel                        | 50GM      | RS.375 |
| 7.    | Fruit Of The Earth Face Pack For Acne With Neem And Rosemary | 150GM     | RS.348 |
| 8.    | Aloe Vera, Bioorganic Acne Cream                             | 100GM     | RS.256 |

**Table3: List Of Herbal Products Found In Gangtok, East Sikkim**

| SL.NO | PRODUCTS MANE   | PACK SIZE | PRICE  |
|-------|---|-----------|--------|
| 1.    | Himalaya Pimple Clear Cream                           | 20GM      | RS.45  |
| 2.    | Omni Herbal Acne Cream                                | 30GM      | RS.100 |
| 3.    | Ayurvedic Active Acne Free                            | 20GM      | RS.80  |
| 4.    | Sri Sri Tattva Shuddhta Ka Naam                       | 10GM      | RS.70  |
| 5.    | Ayurvedic Anti-Acne And Anti-Masks Cream              | 25GM      | RS.150 |
| 6.    | Shloka D-Tan Face Pack For Acne With Tulshi And Clove | 60GM      | RS.385 |
| 7.    | Oshea Herbals Neempure Anti-Acne And Pimple Cream     | 50GM      | RS.360 |



**Table 4: List Of Herbal Products Found In Singtam**

| SL.NO. | PRODUCT NAME                                      | PACK SIZE | PRICE  |
|--------|---|-----------|--------|
| 1.     | Dermadev Aloe Cream For Acne                      | 50MG      | RS.180 |
| 2.     | Ayurvedic Roop Mantra                             | 30MG      | RS.98  |
| 3.     | Patanjali Anti-Acne And Wrinkle                   | 50MG      | RS.150 |
| 4.     | Oshea Herbals Neempure Anti-Acne And Pimple Cream | 50MG      | RS.360 |
| 5.     | Omhi Herbal Acne Cream                            | 30MG      | RS.100 |
| 6      | Vicco Turmeric Skin Cream For Anti-Acne           | 50MG      | RS 120 |

**Table 5: List Of Herbal Products Found In Jorethang**

| SL.NO | PRODUCT NAME  | PACK SIZE | PRICE  |
|-------|---|-----------|--------|
| 1.    | Trudry Organic Aloe Vera Anti-Acne                        | 200GM     | RS.235 |
| 2.    | Khadi Natural Anti-Acne                                   | 50GM      | RS.262 |
| 3.    | Bellavita Organic Anti-Acne                               | 50GM      | RS.319 |
| 4.    | Herbal Papaya Anti-Acne Cream                             | 60GM      | RS.120 |
| 5.    | Natural Herb Aloe Anti-Acne Cream                         | 50GM      | RS.60  |
| 6.    | No Marks And Pimple Cream                                 | 30GM      | RS.35  |
| 7.    | Biotique Bio Winter Green Spot Correcting Anti-Acne Cream | 16GM      | RS.199 |
| 8.    | Bello Acne And Pimple Cream                               | 100GM     | RS.240 |

**Table 6: List Of Herbal Products Found In Namchi South Sikkim**

| SL.NO | PRODUCT NAME                             | PACK SIZE | PRICE  |
|-------|--|-----------|--------|
| 1     | Biotique Spot Correcting Anti-Acne Cream | 16GM      | RS.199 |
| 2     | Dermadew Aloe Cream                      | 100GM     | RS.359 |
| 3     | Bello Acne And Pimple Cream              | 100GM     | RS.240 |
| 4     | Himalaya Pimple Clear Anti-Acne Cream    | 20GM      | RS.45  |
| 5     | Moisturex Hydra                          | 100GM     | RS.280 |
| 6     | Aloe Vera Bio-Organic Acne Cream         | 100GM     | RS.256 |
| 7     | Vicco Turmeric For Skin Clear Cream      | 60GM      | RS.410 |
| 8     | Omni Herbal Acne Cream                   | 30GM      | RS.100 |

**Table 7: List Of Herbal Products Found In Soreng**

| SL.NO | PRODUCT NAME                       | PACK SIZE | PRICE  |
|-------|------------------------------------|-----------|--------|
| 1     | Omni Herbal Anti-Acne Cream        | 30GM      | RS.100 |
| 2     | Khadi Natural Anti-Acne Cream      | 50GM      | RS.262 |
| 3     | Bella Vita Organic Anti-Acne Cream | 50GM      | RS.375 |
| 4     | Aleovera Bio-Organic               | 100GM     | RS.256 |
| 5     | Himalaya Pimple Clear Cream        | 20GM      | RS.45  |



**Table 8: List Of Herbal Products Found In Dentam**

| SL.NO | PRODUCT NAME                             | PACK SIZE | PRICE  |
|-------|--|-----------|--------|
| 1     | Vicco Turmeric Skin Cream For Anti-Acne  | 50GM      | RS.120 |
| 2     | No Marks And Pimple Cream                | 30GM      | RS.35  |
| 3     | Neempure Anti Pimple And Anti-Acne Cream | 50GM      | RS.239 |
| 4     | Herbal Papaya Anti-Acne Cream            | 60GM      | RS.120 |
| 5     | Ayurvedic Active Acne Free               | 20GM      | RS.80  |

**Table 9: List Of Herbal Anti Acne Creams Found In Legship**

| SL.NO | PRODUCT NAME                                    | PACK SIZE | PRICE  |
|-------|---|-----------|--------|
| 1     | Ayurvedic Roop Mantra                           | 30GM      | RS.98  |
| 2     | Patanjali Anti-Acne Cream                       | 50GM      | RS.150 |
| 3     | Natural Herb Aleo Anti-Acne Cream               | 50GM      | RS.120 |
| 4     | Bello Acne And Pimple Cream                     | 100GM     | RS.240 |
| 5     | Modicare Purifying Neem And Gotukula Face Cream | 100GM     | RS.184 |

**Table 10: List Of Herbal Products Found In Ravangla**

| SL.NO | PRODUCT NAME  | PACK SIZE | PRICE  |
|-------|---|-----------|--------|
| 1     | Vicco Turmeric For Clear Skin Cream                       | 60GM      | RS.120 |
| 2     | Khadi Natural Anti-Acne Cream                             | 50GM      | RS.262 |
| 3     | Biotique Bio Winter Green Spot Correcting Anti-Acne Cream | 16GM      | RS.199 |
| 4     | Ayurvedic Active Acne Free                                | 25GM      | RS.150 |
| 5     | Biolife Bioderm Anti-Acne And Pimple Cream                | 30GM      | RS.300 |

**Table 11: List Of Herbal Products Found In Pakyong**

| SL.NO | PRODUCT NAME  | PACK SIZE | PRICE  |
|-------|---|-----------|--------|
| 1.    | Patanjali Anti-Acne And Wrinkle                           | 50MG      | RS.150 |
| 2.    | Khadi Natural Anti-Acne                                   | 50GM      | RS.262 |
| 3.    | Bellavita Organic Anti-Acne                               | 50GM      | RS.319 |
| 4.    | Herbal Papaya Anti-Acne Cream                             | 60GM      | RS.120 |
| 5.    | Biotique Bio Winter Green Spot Correcting Anti-Acne Cream | 16GM      | RS.199 |

**Table 12: List Of Herbal Products Found In North Sikkim**

| SL.NO | PRODUCT NAME                          | PACK SIZE | PRICE  |
|-------|---------------------------------------|-----------|--------|
| 01    | Wow Aleovera Multi-Vitamin Face Cream | 50GM      | RS.495 |
| 02    | Ayouth Veda Anti Acnecmregimen        | 60GM      | RS.540 |
| 03    | Ars Ayurvedic Anti-Acne Cream         | 60GM      | RS.230 |



|    |  |      |        |
|----|--|------|--------|
| 04 | Neempure Anti-pimple And Anti-Acne Cream   | 50GM | RS.239 |
| 05 | Body Dear Anti-Acne And Pimple Cream       | 50GM | RS.295 |
| 06 | Biolife Bioderm Anti-Acne And Pimple Cream | 30GM | RS.300 |

**PIE-CHART ON AVAILABILITY OF HERBAL ANTI-ACNE CREAM IN DIFFERENT LOCATIONS OF SIKKIM**

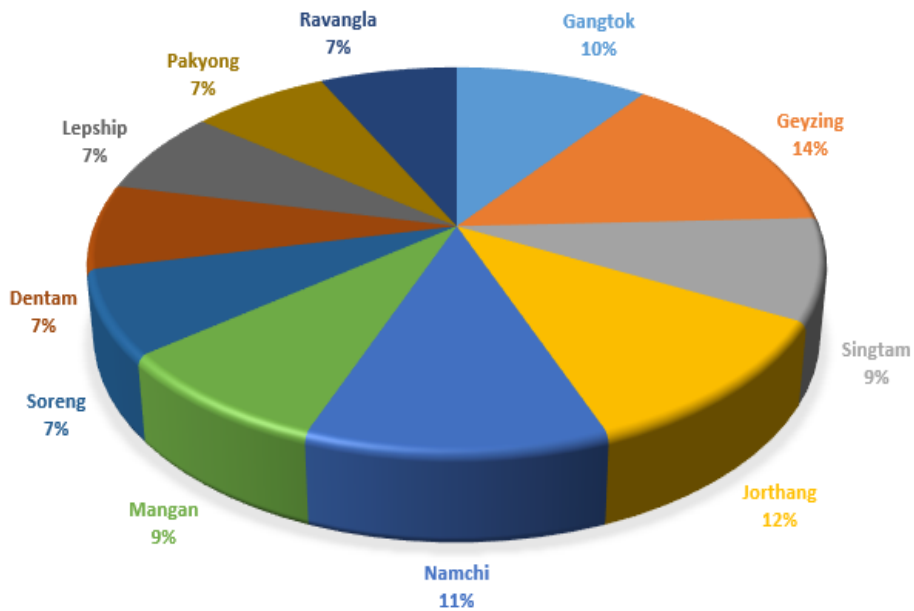


Figure 1: Percentage Availability of Herbal Anti-Acne Cream in Different Locations of Sikkim

**NUMBER OF PARTICIPANTS USING HERBAL ANTI-ACNE PRODUCT**

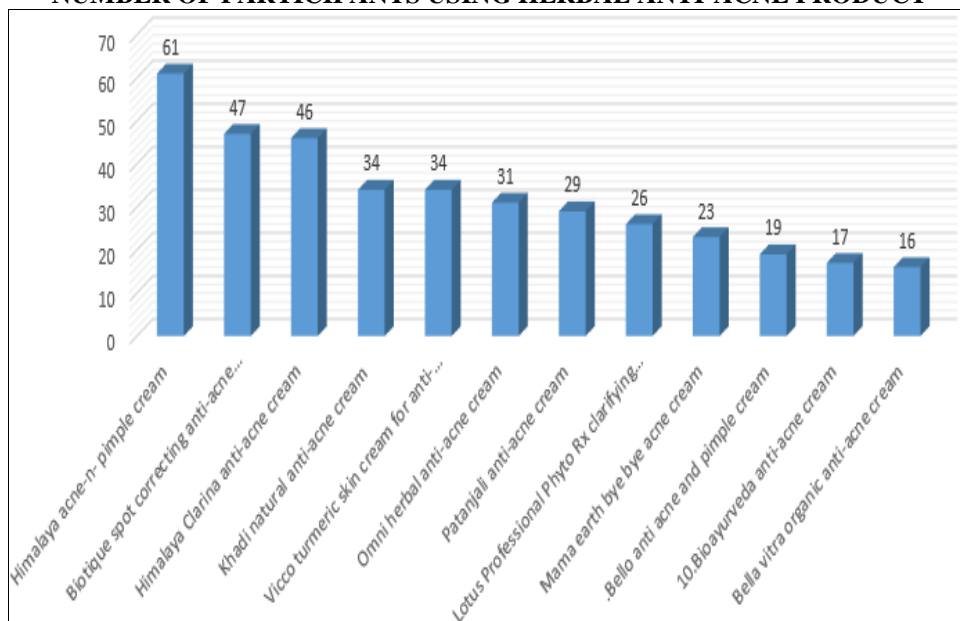


Figure 2: Number of Participants Using Herbal Anti-Acne Product (Total Participants= 383)



#### IV. SUMMARY AND CONCLUSIONS

Acne vulgaris, also known as acne, is a persistent skin disorder caused by excessive sebaceous gland production in the follicle. This illness has a negative impact on self-esteem. When incorrect sebaceous therapies for acne therapy are used, the pathological aspect of acne begins. Many negative effects are induced by chemical components in cosmetics, which are regularly utilized to irritate the skin and cause bacterial resistance issues. The main elements contributing to the development of acne lesions are increased sebum production, keratinocyte sloughing, bacterial growth and inflammation.

As it is most likely seen in pre-teens and teenagers. It has been stated that there is a rising trend towards herbal medicine as the demand has increased. To clinch the scenario, herbal anti-acne cream for acne fits in the best. The properties of herbal anti-acne cream include anti-inflammatory, anti-bacterial, and anti-androgenic properties.

The survey gathered 383 responses from the different districts of Sikkim, with 85 percent of the respondents being girls and 15 percent being boys. And of the 85 percent of girls, 40% were adults and 45% were young respondents. Between those, 85% of females and 40% of males were found with acne and had symptoms such as itching, redness, painful lumps, tender bumps, and pimples. The top 5 herbal anti acne-creams used by the youth of Sikkim were

1. Himalaya acne-n- pimple cream
2. Biotique spot-correcting anti-acne cream
3. Himalaya clarina anti acne cream
4. Vicco turmeric skin cream for anti-acne and
5. Khadi acne pimple cream

Findings showed that most of the herbal anti-acne cream users were satisfied with the pack size, price, and the result it gave. And most of the users were using without any recommendation by the doctor and few of them were using as per the prescription. The herbal anti-acne creams were found to be cost effective with the price ranges from Rs 45 to Rs 500. It also has the fewer side effects on long-term use.

Common side effects faced by the users while using the herbal anti-acne cream.

- Itching
- burning sensation
- redness
- dryness
- dizziness,
- peeling of skin and

- Nausea

Many of the participants had acne problems due to the lifestyle they had, the change in hormonal balance and the products they were using not according to their skin type.

#### BENEFITS OF HERBAL ANTI-ACNE CREAM

- It relieves pain and inflammation caused by acne.
- Controls excess oil and sebum production.
- Protects the skin from harmful radiation and environmental pollutants.
- Fights with acne-causing microbes and prevents the occurrence of acne.
- Maintains the original pigmentation of the skin.
- Cleanses the skin and pores and reduces blackheads.
- Effectively whitens the skin by erasing dark spots.
- Speeds the growth of new skin cells and removal of dead skin cells.

#### DIFFERENCE BETWEEN HERBAL AND ANTI-ACNE CREAM

- Herbal medications are considered safer than allopathic medicine because allopathic medication is associated with different side effects such as allergy, local irritation, scaling, photosensitivity reaction, itching, peeling, redness etc.
- Allopathic medicines give immediate action but in the long run, they cause very severe adverse effects.
- Herbal medicines tend to have fewer side effects than allopathic medicines
- It is inexpensive compared to allopathic medicines
- In addition to this many herbal formulations have come up with very effective results as observed during the survey period.

#### RECOMMENDATION

- Avoid consuming junk foods.
- Regular use of medicine.
- Have a balanced diet.
- Stay hydrated.
- Stay hygienic.
- Regular workout.
- Good rest and sleep.
- Don't use random products that are not suitable according to the skin type.





- If any side effects are observed then consult the physician.
- Wash your face before applying the cream.
- Use the product as per doctor's recommendation only.

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