

EFFECTIVENESS OF EXTERNAL APPLICATION OF *BERBERIS AQUIFOLIUM Q* IN MANAGEMENT OF *ACNE VULGARIS* ASSESSED USING GLOBAL ACNE GRADING SCALE (GAGS)

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ABSTRACT

Objective: Acne vulgaris is characterized by obstruction of horny plugs (comedowns), followed by inflammation of obstructed follicles, leading to tissue destruction and scarring. Acne vulgaris is triggered by *Cutibacterium acnes* in adolescence usually 12-16 years of age (85%) under the influence of normal circulating dehydroepiandrosterone (DHEA). It is the eight commonest disorders which can present with inflammatory and noninflammatory lesions chiefly on the face and also on the upper arms, trunk, and back. The objective of this study is to assess the effectiveness of *Berberis aquifolium Q* as an external application in cases of Acne vulgaris using Global Acne Grading Scale (GAGS). **Material and Methods:** A Single arm, open label Interventional study was done in O.P.D of Dr. Girendra Pal Homoeopathic Hospital and Research Centre, Saipura, Sanganer, Jaipur. The objective of the study was to assess the effectiveness of *Berberis aquifolium Q* as an external application in cases of Acne

vulgaris using Global Acne Grading Scale (GAGS). 30 patients aged 13-30 years of both sexes were included suffering from acne vulgaris were treated with homoeopathic medicine *Berberis aquifolium Q*. **Result:** Paired sample t- test shows difference of mean= 16.43, t (29)

= 23.89, $P = 0.000$ indicating improvement in patients suffering from acne vulgaris treated by homoeopathic medicine *Berberis aquifolium Q*. **Conclusion:** Homoeopathic medicine *Berberis aquifolium Q* shows marked improvement in cases of Acne vulgaris.

KEYWORDS: Berberis aquifolium, Mother tincture, Homeopathic, Single arm, Acne vulgaris.

INTRODUCTION

Problem Description

Acne vulgaris is a disorder of pilosebaceous complex which predominantly affects the peripubertal population and clinically manifests as comedones (open/closed), papules, nodules, pustules, and cysts and heals with scars.^[1]

Acne is estimated to affect 9.4% of the worldwide population. It affects 85% of adolescents and young adults.^[2]

Acne vulgaris has a significant impact on the quality of life of a patient. It has a significant impact on the self-esteem and psychosocial development of patients. Adolescents are more concerned with their aesthetic appearance, and acne presents a cosmetic challenge to them. Many features indicate that a person's acne vulgaris is sensitive to hormonal influences.^[3]

Patients with acne have been reported to have functional and emotional effects compared to those in patients having eczema or psoriasis and equivalent or greater levels of social, psychological and emotional problems are seen in patients with chronic disabling medical or surgical diseases.^[3]

Usual line of treatment is either local topical agents or oral medication.

Acne is psychological and emotional in origin and it can be treating with holistic nature of medicine.^[4]

Homoeopathy is also preferred to be second most used medicine for acne and skin disorders. Homoeopathy advocates use of internal medicine for treatment. However, some authors propose that homoeopathic external mother tincture can be used in the form of oil, ointment, lotion and liniment with great efficacy.^[5,6]

Previous researches also suggest Effective role of *Berberis aquifolium Q* homoeopathic medicine in cases of acne vulgaris in a Randomized Control Trial of *Berberis Aquifolium* Mother Tincture Along With Homoeopathic Similimum versus Homoeopathic Similimum Alone In Cases of Acne It was concluded that Constitutional remedy along with *Berberis Aquifolium* mother tincture showed 86.36% result as compare to Constitutional remedy given Alone were 73.92%.^[7] Similarly in a study comparing the effectiveness of a herbal-complex (*Arctium lappa*, *Berberis aquifolium*, *Echinacea purpurea* and *Taraxacum officinale*) as compared to homoeopathic similimum in the treatment of Acne vulgaris. It was found that the herbal complex showed a similar significant reduction in the number of lesions as the homeopathic similimum.^[8]

AIM AND OBJECTIVE

AIM

To study the effectiveness of external application of *Berberis aquifolium Q* in treatment and management of *Acne vulgaris*.

OBJECTIVE

To assess the effectiveness of *Berberis aquifolium Q* as an external application in cases of Acne vulgaris using Global Acne Grading Scale (GAGS).

MATERIALS AND METHOD

The study was conducted at O.P.D of Dr. Girendra Pal Homoeopathic Hospital and Research Centre, Saipura, Sanganer, Jaipur (Rajasthan) for a duration of six months. The study was approved by the Institutional Ethical committee of Homoeopathy University, Jaipur. 30 patients were enrolled after screening. A written informed consent was obtained from each participant.

STUDY DESIGN

Selection and description Screening of patients was done according to predefined inclusion & exclusion Criteria.

Inclusion Criteria

- Diagnosed cases of Acne vulgaris
- Age Group - 13-30 years
- Both genders

- Patients (Guardian/attendant) giving voluntary consent for the study.
- Cases of puberty, adolescence age group, taking treatment from another system of medicine, having no relief and seeking homeopathy treatment.

Exclusion Criteria

- Pregnant females and females who are lactating will be excluded.
- Cases who refuse to give their consent for the study.
- Patients with nodulocystic acne.
- Patient who are suffering from any other systemic illness requiring conventional treatment.
- Patients with advanced pathological conditions and immunocompromised patients.
- Patients already on homoeopathic treatment.
- Discontinuation of treatment in between and cases without proper follow-up will be excluded from the study.

Type of study & Study design: Single arm, open label Interventional study.

Data Collection

- Cases were recorded in Case taking Performa especially designed for the study. (Appendix II)
- The *Global Acne Grading Scale (GAGS)* (Appendix III)
- Master chart was maintained for data recording and analysis.

Data analysis –Data analysis was done by using SPSS and excel. Result were shown as per following criteria.

$$\frac{\text{Baseline Score} - \text{Score at the end}}{\text{Baseline Score}} \times 100$$

Outcome of the treatment was measured in gradation as.

- Marked Improvement-75%-100%
- Moderate Improvement-50%-74%
- Mild Improvement-25-50%
- Status quo-0%-25%
- Worse-Increase in symptoms scores.

Intervention

Homoeopathic Medicine

- i. **Medicine selection:** *Berberis aquifolium Q*
- ii. **Dosage & Repetition:** Application of 10 drops of mother tincture mixed with 15 ml of water, twice a day for 6 weeks.
- iii. **Change of medicine:** In case of no response to treatment within 30 days of starting treatment patient will be shifted to conventional homoeopathic treatment i.e., on basis of totality of symptoms
- iv. **Procurement of medicine:** The medicines will be procured from the pharmaceutical company having the Good Manufacturing Practices certificate.

STATISTICS

Statistical Tool

In order to accomplish the Objective, Paired t- test was used respectively. The analysis has been done on IBM SPSS 20.0.

In this study sample size 30 is taken, degree of freedom (30- 1) is 29 and level of significance is $\alpha = 0.05$.

RESULT

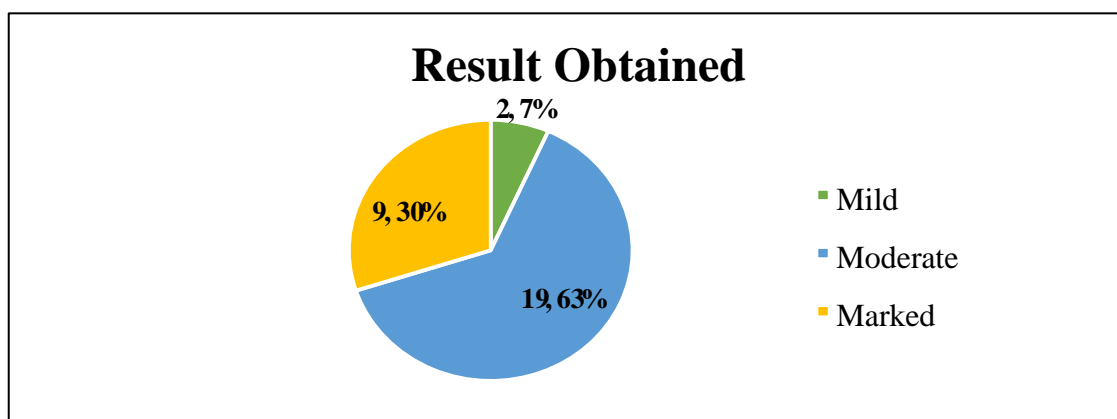


Figure 1: Graphical representation of distribution of 30 cases of *Acne Vulgaris* according to Result Obtained after receiving homoeopathic intervention.

As shown in above figure (1), among the 30 cases of *Acne Vulgaris* 63% (n=19) showed Moderate improvement, 30% (n=9) cases showed Marked improvement and 7% (n=2) cases showed Mild improvement after receiving homoeopathic intervention *Berberis aquifolium Q*.

In order to accomplish the Objective, Paired t- test was used respectively. The analysis has been done on IBM SPSS 20.0.

In this study sample size 30 is taken, degree of freedom (30- 1) is 29 and level of significance is $\alpha = 0.05$. pre-treatment (M= 24.37, S.D. =7.189) compared to post treatment (M = 7.93, S.D. = 4.84) by The Global Acne Grading Scale (GAGS) analysis showed lowering in mean of score. Lower the Score indicate severity of eruptions of Acne vulgaris improved by homoeopathic medicine. The difference of mean = 16.43 at $t(29) = 23.89$, $P = 0.000$.

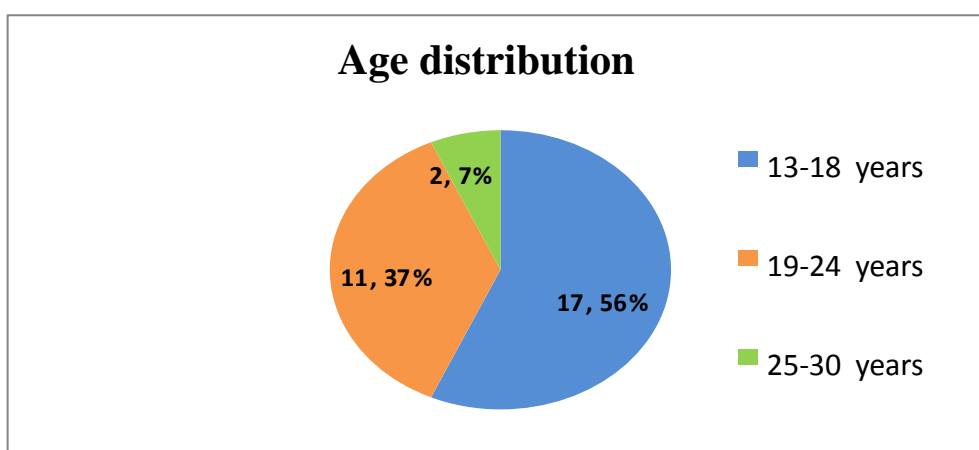


Figure 2: Graphical representation of distribution of 30 cases of *Acne Vulgaris* according to Age Group.

As shown in above figure (2), among the 30 cases of *Acne Vulgaris* cases 56 % (n=17) cases were from age group of 13-18 years; 37% (n=11) cases each were from age groups of 19-24 years and 7% (n=2) cases were from age group of 25-30 years.

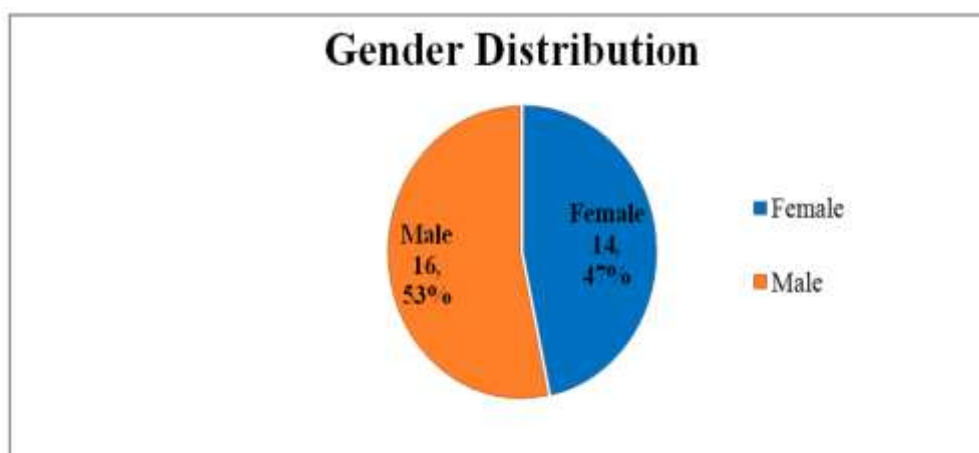


Figure 3: Graphical representation of distribution of 30 cases of *Acne Vulgaris* according to Sex.

As shown in above figure (3), among the 30 cases of *Acne Vulgaris* 53% (n=16) cases were Male; 47 % (n=14) cases were Female.

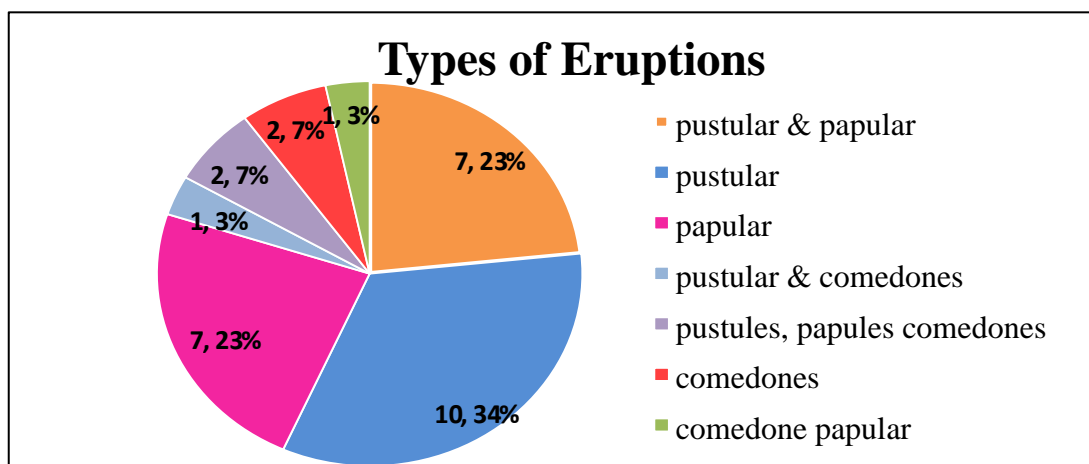


Figure 4: Graphical representation of distribution of 30 cases *Acne Vulgaris* according to Types of Eruption.

As shown in above figure (4), among the 30 cases of *Acne Vulgaris* 23% (n=7) cases have pustular and papular eruption; 23% (n=7) cases have papular eruption; 34% (n=10) cases have pustular eruption; 7% (n=2) cases have comedones; 7% (n=2) cases have pustules, papules, comedones; 3% (n=1) cases have comedone, papular eruptions; 3% (n=1) cases have pustular & comedones.

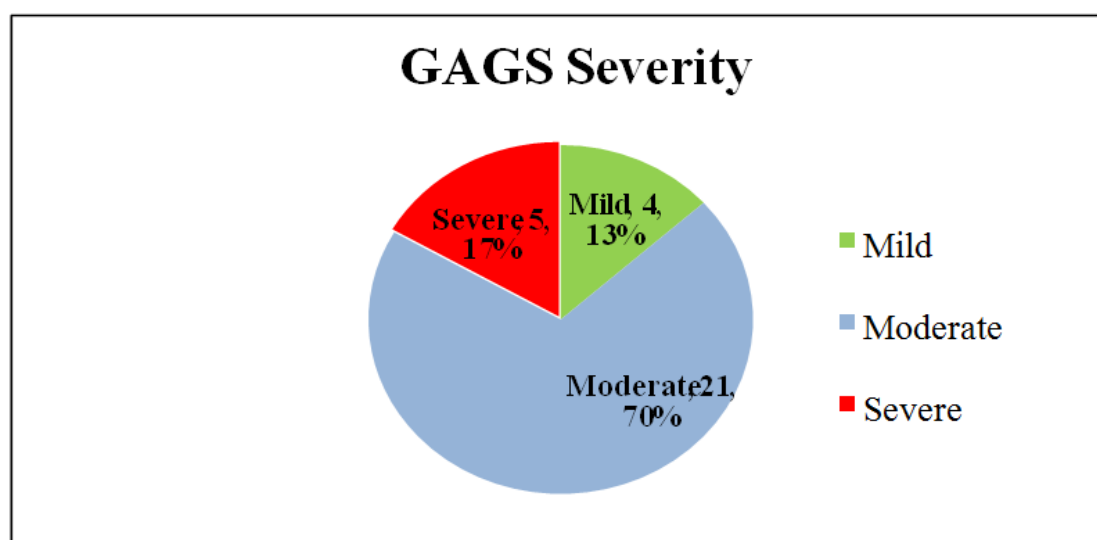


Figure 5: Graphical representation of distribution of severity of acne eruptions in 30 cases of *Acne Vulgaris* according to GAGS SEVERITY.

As shown in above figure (5), severity of acne eruptions among the 30 cases of *Acne Vulgaris* 70% (n=21) cases are Moderate, 13% (n=4) cases are Mild, 17% (n=5) cases are Severe.

DISCUSSION

In this study 30 cases of Acne vulgaris were taken.

- In the study, maximum cases of Acne Vulgaris were from age groups of 13-18 years. A higher prevalence in 13-18 years of age has been consistently reported by Indian studies.^[9]
- In our study, maximum cases of Acne Vulgaris were males which collaborated with various recent studies.^[9,10]
- In our study, maximum cases of Acne Vulgaris reported Face as the most affected part which collaborated with various recent studies. Also, we can discuss that the most affected age were teenagers who came for treatment and usually they are more conscious about aesthetics hence it could be reason that when face was affected due to aesthetic reasons patients seek treatment more as compare to others parts of body being affected.^[11]
- Among the 30 cases of Acne Vulgaris 63% (n=19) shows Moderate improvement, 30% (n=9) cases show Marked improvement. Our findings suggest that *Berberis aquifolium Q* improves acne eruptions as external application. This could be due to presence of alkaloid Berberine in this mother tincture which has antibacterial and antifungal properties.^[11]

Limitation of study was small sample size and short duration of study.

CONCLUSION

The small sample size and short duration of study are its prime limitations. However, this study shows the potential benefits of homoeopathic treatment in cases of Acne vulgaris.

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