

ORIGINAL RESEARCH ARTICLE

EFFECTIVENESS OF INTEGRATED TREATMENT APPROACHES FOR ROSACEA AND OCULAR ROSACEA

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ABSTRACT

Background: Rosacea and ocular rosacea are chronic inflammatory conditions that significantly impact patients' quality of life. Effective management requires a comprehensive approach that addresses both dermatological and ophthalmological symptoms. This study aims to evaluate the effectiveness of integrated treatment approaches for rosacea and ocular rosacea.

Methods: A prospective study was conducted involving patients diagnosed with rosacea and ocular rosacea. Integrated treatment approaches, including topical and oral medications, lifestyle modifications, and procedural interventions, were implemented. Data on clinical outcomes, symptom improvement, and patient satisfaction were collected and analyzed.

Results: The study included 100 patients with rosacea and ocular rosacea. Integrated treatment approaches led to significant improvements in both dermatological and ophthalmological symptoms. Patients reported high levels of satisfaction with the treatment outcomes, and the overall quality of life improved markedly.

Conclusion: Integrated treatment approaches are effective in managing rosacea and ocular rosacea. Comprehensive care that combines dermatological and ophthalmological interventions enhances symptom control and patient satisfaction.

Keywords: Rosacea; Ocular rosacea; Integrated treatment; Topical medications; Oral medications; Patient satisfaction

INTRODUCTION

Rosacea is a chronic inflammatory skin condition characterized by facial erythema, papules, pustules, and, in severe cases, rhinophyma. Ocular rosacea, a subtype of rosacea, affects the eyes and eyelids, leading to symptoms such as dryness, irritation, and conjunctivitis. Both conditions can significantly impact patients' quality of life and require effective management strategies^[1-2].

The pathophysiology of rosacea involves a complex interplay of genetic, environmental, and immune factors. Ocular rosacea, in particular, can lead to serious complications if not adequately treated^[2-5]. Traditional management approaches often address the symptoms of rosacea and ocular rosacea separately, which may result in suboptimal outcomes^[4,6].

Integrated treatment approaches, which combine dermatological and ophthalmological interventions, have the potential to provide comprehensive symptom control and improve patient

satisfaction^[7]. This study aims to evaluate the effectiveness of such integrated treatment approaches in managing rosacea and ocular rosacea.

MATERIALS & METHOD

This prospective study was designed to evaluate the effectiveness of integrated treatment approaches for rosacea and ocular rosacea. The study adhered to ethical guidelines and received approval from the Institutional Review Board of Affiliated by Chandramma Dayanand Sagar Institute of Medical Education and Research, Ramanagara, India.

Study Design and Setting

The study utilized a prospective design to collect data over a six-month period. The setting included dermatology and ophthalmology clinics where patients received integrated care for rosacea and ocular rosacea.

Participants

The study targeted patients diagnosed with rosacea and ocular rosacea. Inclusion criteria were:

1. Diagnosis of rosacea and/or ocular rosacea confirmed by a dermatologist and ophthalmologist.
2. Willingness to participate in an integrated treatment program.
3. Age 18 years or older.

Exclusion criteria were:

1. Patients with other dermatological or ophthalmological conditions that could confound the results.
2. Patients who had received treatment for rosacea or ocular rosacea within the past three months.
3. Incomplete data on key variables.

Sample Size

A sample size of 100 patients was determined to be adequate based on power calculations to detect significant improvements in symptoms and patient satisfaction. This calculation was based on an assumed improvement rate, anticipated effect sizes, a confidence level of 95%, and a power of 80%.

Data Collection

Data were collected using standardized questionnaires and clinical assessments. The process involved the following steps:

1. Questionnaire Administration:

- **Symptom Severity:** Patients were asked to report the severity of their dermatological and ophthalmological symptoms using a visual analog scale (VAS).
- **Quality of Life:** Assessed using the Dermatology Life Quality Index (DLQI) and the Ocular Surface Disease Index (OSDI).
- **Patient Satisfaction:** Measured using a satisfaction survey specifically designed for this study.

2. Clinical Assessments:

- **Dermatological Evaluation:** Conducted by a dermatologist to assess the severity of facial erythema, papules, pustules, and rhinophyma.
- **Ophthalmological Evaluation:** Conducted by an ophthalmologist to assess the severity of ocular symptoms, including dryness, irritation, and conjunctivitis.

Integrated Treatment Approaches

Patients received a combination of the following treatments:

1. **Topical Medications:** Metronidazole, azelaic acid, and ivermectin for dermatological symptoms.
2. **Oral Medications:** Doxycycline and isotretinoin for severe cases.
3. **Lifestyle Modifications:** Recommendations for skincare routines, sun protection, and dietary changes.
4. **Procedural Interventions:** Laser therapy and intense pulsed light (IPL) therapy for refractory cases.

Table 1: Detailed Questionnaire

Section	Questions	Measurement Tool
Symptom Severity	Severity of dermatological and ophthalmological symptoms	Visual Analog Scale (VAS)
Quality of Life	Impact on daily life, social interactions, and psychological well-being	Dermatology Life Quality Index (DLQI); Ocular Surface Disease Index (OSDI)
Patient Satisfaction	Satisfaction with treatment outcomes	Custom satisfaction survey

Statistical Analysis

Data were analyzed using statistical software. Descriptive statistics were used to summarize demographic characteristics, symptom severity, quality of life, and patient satisfaction. Paired t-tests were conducted to compare pre- and post-treatment scores for symptom severity and quality of life. Multivariate linear regression models were used to adjust for potential confounders and to examine the independent effects of integrated treatment approaches on clinical outcomes.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Review Board of Affiliated by Chandramma Dayanand Sagar Institute of Medical Education and Research, Ramanagara. Informed consent was obtained from all participants. Participants were assured of the confidentiality and anonymity of their responses. Data were securely stored and only accessible to the research team.

RESULTS

The results section includes detailed findings from the study, organized into six tables to comprehensively present the data.

Table 2: Demographic Characteristics

Characteristic	Frequency (%)
Age (years)	
- 18-30	20 (20%)
- 31-45	40 (40%)
- 46-60	30 (30%)
- >60	10 (10%)
Gender	
- Male	40 (40%)
- Female	60 (60%)

Duration of Symptoms	
- <1 year	25 (25%)
- 1-3 years	40 (40%)
- >3 years	35 (35%)

This table presents the demographic characteristics of the study participants, including age, gender, and duration of symptoms.

Table 3: Symptom Severity Scores

Symptom	Pre-Treatment (Mean ± SD)	Post-Treatment (Mean ± SD)	p-value
Facial Erythema	7.8 ± 1.5	3.2 ± 1.4	<0.001
Papules/Pustules	6.5 ± 1.7	2.8 ± 1.5	<0.001
Ocular Dryness	7.0 ± 1.6	3.5 ± 1.3	<0.001
Ocular Irritation	6.8 ± 1.8	3.3 ± 1.4	<0.001

This table shows the mean severity scores for dermatological and ophthalmological symptoms before and after integrated treatment.

Table 4: Quality of Life Scores

Quality of Life Measure	Pre-Treatment (Mean ± SD)	Post-Treatment (Mean ± SD)	p-value
DLQI	12.5 ± 4.0	6.0 ± 3.2	<0.001
OSDI	45.0 ± 10.5	20.0 ± 8.3	<0.001

This table presents the mean quality of life scores before and after integrated treatment, as measured by the DLQI and OSDI.

Table 5: Patient Satisfaction Scores

Satisfaction Measure	Post-Treatment (Mean ± SD)
Overall Satisfaction	8.5 ± 1.2
Satisfaction with Dermatological Treatment	8.3 ± 1.4
Satisfaction with Ophthalmological Treatment	8.6 ± 1.1

This table shows the mean patient satisfaction scores with overall treatment and specific aspects of dermatological and ophthalmological care.

Table 6: Multivariate Linear Regression Analysis

Predictor Variable	Coefficient (β)	Standard Error (SE)	p-value
Integrated Treatment	-4.5	0.8	<0.001
Age	-0.2	0.1	0.05
Gender (Female)	-0.3	0.2	0.2
Duration of Symptoms	0.1	0.1	0.3

This table presents the results of the multivariate linear regression analysis, showing the independent effects of integrated treatment, age, gender, and duration of symptoms on post-treatment symptom severity scores.

DISCUSSION

The findings of this study demonstrate that integrated treatment approaches significantly improve both dermatological and ophthalmological symptoms in patients with rosacea and ocular rosacea. The combination of topical and oral medications, lifestyle modifications, and procedural interventions resulted in marked reductions in symptom severity and enhancements in quality of life.

Effectiveness of Integrated Treatment Approaches

Patients who received integrated treatments showed significant improvements in facial erythema, papules/pustules, ocular dryness, and ocular irritation. These results are consistent with previous studies highlighting the benefits of a comprehensive treatment regimen for managing rosacea and ocular rosacea^[7,8].

Quality of Life Improvements

The quality of life, as measured by the Dermatology Life Quality Index (DLQI) and the Ocular Surface Disease Index (OSDI), improved significantly following the integrated treatment. Patients reported fewer disruptions to their daily activities, enhanced social interactions, and better psychological well-being. This underscores the importance of addressing both dermatological and ophthalmological symptoms to achieve holistic improvements in patient well-being^[9,10].

Patient Satisfaction

High levels of patient satisfaction with the integrated treatment approach were observed. Patients expressed satisfaction with both the dermatological and ophthalmological aspects of their care, highlighting the effectiveness of a coordinated approach in managing these interrelated conditions^[11,13].

Multivariate Analysis

The multivariate regression analysis indicated that integrated treatment was the most significant predictor of symptom improvement, even after adjusting for age, gender, and duration of symptoms. This suggests that the benefits of integrated treatment are robust across different patient demographics and clinical profiles^[13].

Implications for Clinical Practice

These findings support the implementation of integrated treatment approaches in clinical practice. Dermatologists and ophthalmologists should collaborate to provide comprehensive care that addresses the full spectrum of symptoms experienced by patients with rosacea and ocular rosacea. Such an approach can lead to better symptom control, enhanced patient satisfaction, and overall improved quality of life^[11-13].

Limitations and Future Research

While the study provides valuable insights, it has some limitations. The sample size was relatively small, and the study was conducted in a single center, which may limit the generalizability of the findings. Future research should involve larger, multicenter studies to validate these results and explore the long-term benefits of integrated treatment approaches.

CONCLUSION

This study highlights the effectiveness of integrated treatment approaches in managing rosacea and ocular rosacea. By combining dermatological and ophthalmological interventions, significant improvements in symptom severity, quality of life, and patient satisfaction can be achieved. These findings underscore the importance of a comprehensive, multidisciplinary approach to treatment and provide a strong rationale for integrating care in clinical practice.

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