



IMPACT OF PSYCHOLOGICAL TREATMENT (INFORMATIONAL CARE AND SUPPORTIVE COUNSELLING) ON PATIENT OUTCOMES IN PSORIASIS: A RANDOMIZED CONTROLLED TRIAL

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Abstract

Background: Psoriasis is a chronic, immune-mediated dermatologic condition, globally affecting 0.6% to 4.8%. Up to 40% of psychiatric patients are non-compliant due to stigma and distress.

Objective: This study was carried out to determine the effect of informational care and supportive counselling on treatment outcomes in psoriatic patients in relation to disease severity, quality of life, and drug adherence.

Methods: A parallel-group randomized controlled trial was conducted with a 1:1 allocation ratio. A total of 104 psoriasis patients aged 18–65 was randomly selected from Sohail Trust Hospital and Medicare Hospital using a computer-generated random number table. Allocation concealment was maintained using sealed opaque envelopes. The intervention group received structured educational sessions and personalized supportive counselling. The control group received standard dermatologic care. PASI, DLQI, and a medication adherence questionnaire were used to assess outcomes. Statistical analysis included independent and paired t-tests and repeated measures ANOVA.

Results: Significant improvements were observed in the intervention group: PASI scores decreased from 18.31 to 9.6, DLQI from 12.48 to 6.90, and medication adherence scores from 5.85 to 4.60. No adverse events were reported.

Conclusion: Informational care and supportive counselling significantly improved clinical outcomes, quality of life, and treatment adherence in psoriasis patients. These findings support incorporating psychosocial support into routine dermatologic management.

Keywords: Psoriasis, Informational care, Supportive Counselling, Quality of Life, Treatment Adherence, PASI, DLQI

Introduction

Psoriasis is a chronic, immune-mediated skin disease affecting 0.6% to 4.8% of the global population.¹ Clinically, it is marked by the rapid turnover of skin cells, resulting in erythematous, scaly plaques that commonly appear on the scalp, elbows, and trunk.^{2,3} While the physical features of psoriasis are extensively described, its psychological impact is often neglected. Most patients experience emotional distress, social isolation, and psychiatric disturbances like depression and anxiety.^{4,5} The long-term visibility of the lesions causes psychosocial disability, leading in turn to neglect of the treatment.⁶

Emerging literature advocates for a more holistic, biopsychosocial approach to managing psoriasis.^{7,8} While cognitive-behavioural therapy (CBT) and other sophisticated psychotherapeutic models have shown benefit, structured informational care and supportive counselling remain underutilized in dermatologic settings. This study seeks to fill that gap by evaluating the impact of these psychological interventions on clinical outcomes, quality of life, and medication adherence in psoriasis patients.

Methods

Study Design: A parallel-group randomized controlled trial (RCT) with 1:1 allocation.

Participants: 104 adults aged 18–65 with a clinical diagnosis of psoriasis.

Exclusion criteria: severe psychiatric illness or other dermatologic conditions.

Recruitment Period: Patients were recruited between May 2024, with follow-up completed by July 2024.

Settings: Sohail Trust Hospital and Medicare Hospital, Karachi.

Interventions:

- **Informational Care:** Six weekly structured sessions (30–45 minutes each) covering disease nature, treatment, and lifestyle modifications.
- **Supportive Counselling:** Emotional and behavioral coping strategies delivered by trained psychologists.

Control Group: Received routine dermatologic care.

Intervention Delivery and Fidelity: All sessions were delivered by trained clinical psychologists and medical students under closed supervision. Providers followed a semi-structured manual and were supervised weekly. Fidelity was ensured through adherence checks and documentation.

Outcomes:

- **Primary:** PASI (disease severity)
- **Secondary:** DLQI (quality of life), Medication Adherence Questionnaire

Randomization: Sequence generated by an independent researcher. Allocation concealment was achieved using opaque sealed envelopes.

Blinding: Participants and providers were not blinded. However, outcome assessors were blinded to group allocation.

Statistical Analysis: Data analyzed using SPSS. Independent and paired t-tests and repeated measures ANOVA were used. No imputation was required as all participants completed the study.

Sample Size Justification: Exploratory design based on feasible recruitment, not a formal power calculation.

Harms: No adverse events or unintended effects were reported.

Protocol and Registration: This study was not prospectively registered as it was conducted for academic purposes without external funding. However, a detailed protocol was developed prior to study commencement and is available from the corresponding author upon reasonable request

Results

Demographics

The mean age was 35.81 ± 11.8 years in the intervention group and 37.94 ± 11.0 years in the control group ($p = 0.342$). Gender distribution was comparable (male: 48.1% in the intervention group vs. 44.2% in controls; $p = 0.694$). This suggests the demographic distribution were not significantly different, allowing for fair comparison between two groups. (Bar chart 1,2)

Baseline comparison

At baseline, the Case group had higher PASI scores, DLQI scores, and disease severity, suggesting that they were initially in a more severe state of psoriasis compared to the Control group. Specifically, the Case group had higher disease severity (PASI = 18.31 ± 5.04 vs. 11.41 ± 5.19 for Control) and a worse quality of life (DLQI = 12.48 ± 3.58 vs. 7.98 ± 3.50 for Control). This baseline disparity underscores the need for effective interventions for individuals in more severe conditions. (Table-1)

Comparison of Clinical Outcomes (PASI, DLQI, Rx Adherence, and Disease Severity) from Baseline to Follow-up in Case and Control Groups:

The case group, which received psychological intervention, showed significantly greater improvements in clinical outcomes compared to the control group. PASI scores dropped markedly from 18.31 to 9.61, indicating a strong reduction in disease severity. DLQI scores also showed improvement, from 12.48 to 6.90, which reflects a better quality of life. Adherence to treatment also showed an improvement, as the scores came down from 5.85 to 4.60. Though the control group also showed an improvement, the same was far less spectacular in all the parameters that were being measured. These findings suggest the positive influence of psychological support on the treatment of the disease, quality of life, and treatment adherence in psoriasis patients (Table-2)

A Comparative Outcomes Analysis of Case and Control Groups Using Independent t-Test at Baseline and Final Follow-Up.

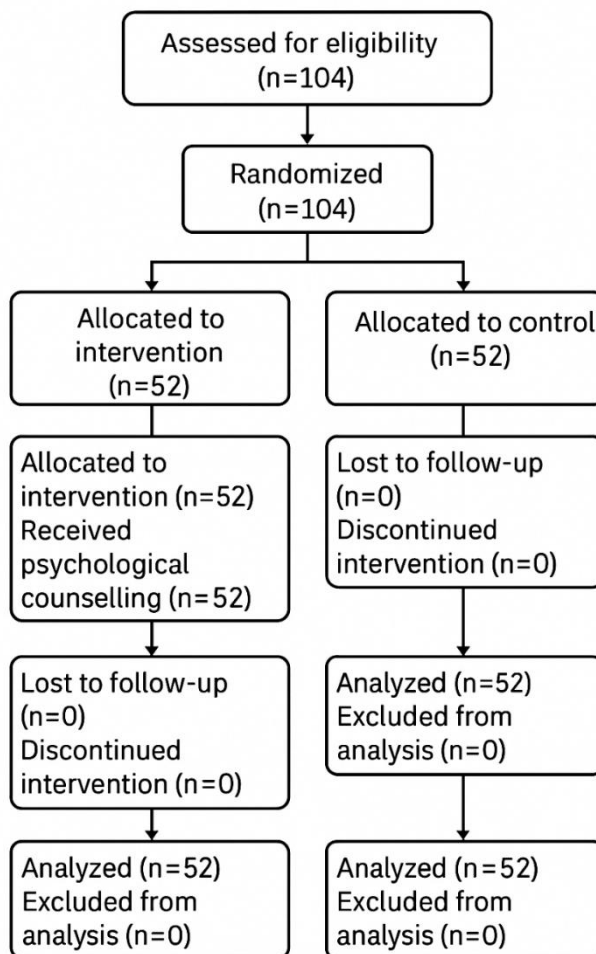
Table 3 shows comparative results of clinical outcomes of the intervention and control cohorts from baseline to final follow-up. The cohort that received psychological intervention showed higher improvements in all parameters being measured. Their PASI scores reduced significantly from 18.31 to 9.61, compared to a smaller reduction in the control cohort from 11.41 to 8.59, indicating better control of disease severity. Similarly, the DLQI score of the intervention cohort reduced from 12.48 to 6.90, indicating better quality of life, while the control cohort had a smaller adjustment from 7.98 to 5.85. Adherence to treatment was also higher in the intervention cohort, with scores reducing from 5.85 to 4.60, compared to the control group that shifted from 5.69 to 5.23. Finally, the scores measuring the severity of disease showed a bigger improvement in the intervention cohort. These findings show the positive impact of psychological interventions on psoriasis, resulting in better control of disease control, quality of life, and adherence to treatment.

Repeated Measures ANOVA Demonstrating the Impact of Psychological Intervention Across Time on Clinical Outcomes.

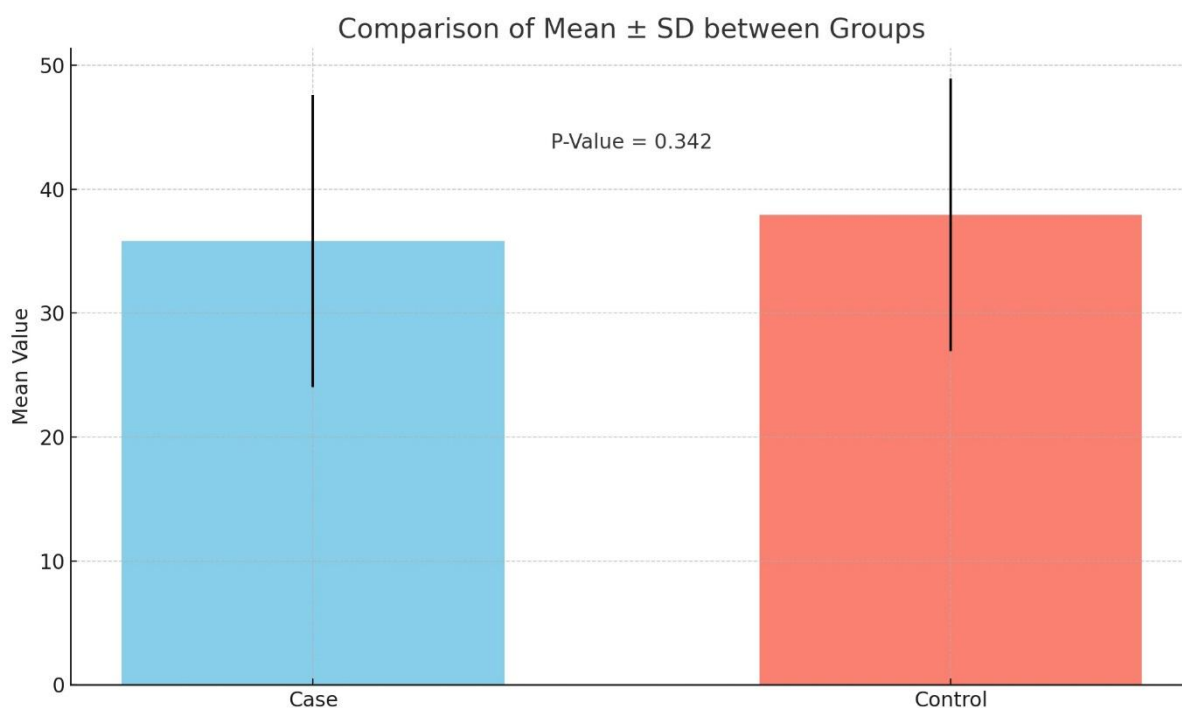
One-way repeated measures ANOVA also compared the effect of psychological interventions on psoriasis outcomes over time—at baseline, during, and post-intervention. Results revealed better PASI, DLQI, compliance with treatment, and disease severity, with all p-values less than 0.001. PASI and DLQI scores decreased significantly, reflecting decreased disease severity and quality of life improvement. Treatment adherence also improved significantly, reflecting increased commitment to therapy. Disease severity scores also decreased over time. These results indicate that psychological interventions, such as counselling and informational care, had a positive effect on patient outcomes and can be useful supplements in the management of chronic disease such as psoriasis. (Table-4)

Confidence Intervals: 95% Confidence Interval (95% CI)

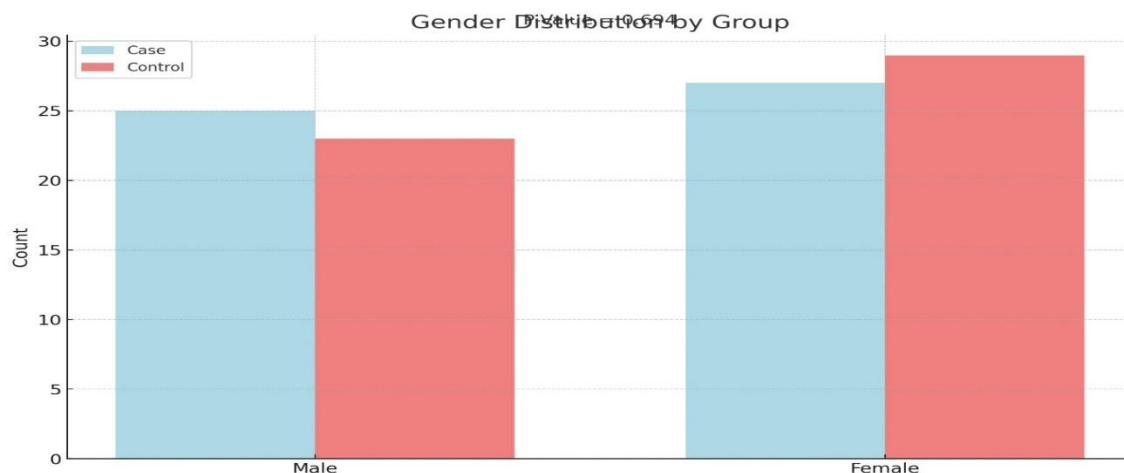
Participant Flow Diagram:



Bar Chart 1 (Comparison of Age (Mean $\pm$ SD) Between Case and Control)



Bar chart 2 (Gender Distribution in Case and Control Groups)



Tabel-1 (Comparison of Clinical Scores (Mean $\pm$ SD) Between Case and Control Groups)

Variables	Mean $\pm$ SD	
	Case	Control
PASI Score 1	18.310 $\pm$ 5.04	11.415 $\pm$ 5.19
DLQI Score 1	12.48 $\pm$ 3.58	7.98 $\pm$ 3.50
Rx Adherence Score1	5.85 $\pm$ 1.19	5.69 $\pm$ 1.02
Disease Severity 1	5.79 $\pm$ 0.53	4.87 $\pm$ 1.31

Table 2. Comparison of Baseline and Last Follow-Up Scores Using Paired t-Test in Case and Control Groups

Variables	Mean $\pm$ SD		P-Value
	Baseline	Last Follow up	
1)PASI Score			
Case	18.31 $\pm$ 5.04	9.61 $\pm$ 2.70	0.000
Control	11.41 $\pm$ 5.19	8.59 $\pm$ 3.94	0.000
2)DLQI Score			
Case	12.48 $\pm$ 3.58	6.90 $\pm$ 2.09	0.000
Control	7.98 $\pm$ 3.50	5.85 $\pm$ 2.53	0.000
3)Rx Adherence Score			

Table 3. Comparison of Outcomes Between Case and Control Groups Using Independent t-Test at Baseline and Last Follow-Up

Variables	Mean $\pm$ SD		Mean Difference	P-Value
	Baseline	Last follow up		
1)PASI Score				
Case	18.31 $\pm$ 5.04	9.61 $\pm$ 2.70	8.69 $\pm$ 3.81	0.000
Control	11.41 $\pm$ 5.19	8.59 $\pm$ 3.94	2.82 $\pm$ 1.87	0.000
2)DLQI Score				
Case	12.48 $\pm$ 3.58	6.90 $\pm$ 2.09	5.58 $\pm$ 2.02	0.000
Control	7.98 $\pm$ 3.50	5.85 $\pm$ 2.53	2.13 $\pm$ 1.57	0.000
3)Rx Adherence Score				
Case	5.85 $\pm$ 1.19	4.60 $\pm$ 0.77	1.25 $\pm$ 1.28	0.000
Control	5.69 $\pm$ 1.02	5.23 $\pm$ 1.00	0.46 $\pm$ 0.98	0.002
4)Disease Severity				
Case	5.79 $\pm$ 0.53	4.48 $\pm$ 0.70	1.30 $\pm$ 0.75	0.000
Control	4.87 $\pm$ 1.31	4.23 $\pm$ 1.16	0.63 $\pm$ 0.68	0.000

Table 4. Repeated Measures ANOVA Showing the Effect of Psychological Intervention Over Time on Clinical Outcomes

Variable	Wilk's Lambda	F-Value	P-Value	Time Effect
PASI Score	0.323	70.62	<0.001	Significant decreased over time
DLQI	0.280	86.74	<0.001	Significant decreased over time
Rx Adherence	0.655	17.77	<0.001	Significant decreased over time
Disease Activity	0.604	51.29	<0.001	Significant decreased over time

Discussion

This study validates the role of psychological interventions—supportive counselling and informational care—in improving psoriasis outcomes. Patients receiving structured psychological support demonstrated superior reductions in disease severity, better quality of life, and greater Treatment adherence compared to controls.

Improvements in PASI scores suggest a potential modulatory effect of psychological interventions on immune-inflammatory pathways involved in psoriasis.⁹⁻¹¹

Stress-induced neuroimmunological mechanisms are known to exacerbate the condition, and psychological resilience may reverse them. Increased DLQI scores reflects marked psychological pain. Counselling and educational visits helped reduce stigma, empowered patients, and enabled proper coping strategies for managing visible cutaneous lesions.¹²⁻¹⁵ Medication adherence increased dramatically with psychological support.

General barriers to adherence such as poor illness insight, emotional disengagement, and low motivation were most probably counteracted through the therapeutic alliance and tailored advice provided in counselling sessions. These findings are consistent with literature supporting psychological interventions like CBT and ICBT.¹⁶⁻¹⁸, but the present approach is more accessible And feasible for routine dermatologic practice.

Limitations: The study's generalizability may be limited by its setting in only two hospitals. The brief follow-up duration limits conclusions regarding long-term sustainability. Lastly, the study did not investigate biological markers of disease activity that could further elucidate mechanisms.

Conclusion

The incorporation of psychological support—most notably informational care and supportive counselling—into regular psoriasis care considerably enhances clinical outcomes, quality of life, and medication-taking. These interventions provide a low-cost, scalable solution compatible with patient-centered, comprehensive care models for the management of chronic diseases.

Limitations: Single-city setting, short follow-up, no biological markers, and self-reported adherence introduce limitations.

Generalizability: Findings are relevant to similar urban dermatologic settings; cultural factors may influence applicability elsewhere.

Future Research: Subsequent research would be advised to explore the utility of longitudinal research with longer follow-up intervals to establish the sustainability of the effects of psychological treatment. Use of biomarkers like IL-17A, IL-23A, and HLA-C*06:02 could potentially unlock the depth of the immunomodulatory effect of psychological therapy. Expanding the study to include heterogeneous populations and varied settings would make the results more applicable to potential cultural and socioeconomic considerations that are inevitable to influence the response to treatment. Utilizing objective assessments, such as clinician-rated scales and biometric data, alongside self-reported measures, would provide a more comprehensive evaluation of treatment efficacy. Conducting studies that compare the efficacy of different psychological interventions, such as cognitive behavioral therapy (CBT), mindfulness-based therapies, and supportive counselling, could identify the most effective approaches for managing psoriasis.

Funding and Conflicts of Interest: This study received no external funding. All authors declare no conflicts of interest.

Protocol Access: The protocol is available upon request from the corresponding author.

Trial Registration: This trial was not prospectively registered, as registration was not required under local institutional policies for educational or psychosocial interventions at the time of initiation. The decision was made in consultation with the Ethical Review Committee of Jinnah Medical and Dental College, which confirmed that the trial did not fall under mandatory registry obligations.

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