

**PATIENT COMPLIANCE AND SATISFACTION IN INTEGRATIVE
AYURVEDIC DERMATOLOGY CARE: A MIXED-METHOD ANALYSIS OF
PATIENT-GENERATED FEEDBACK AT KAYAKALP GLOBAL**

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1. Abstract

Kayakalp Global is an integrative Ayurveda-Allopathy dermatology provider founded in 1992, treating over 30,000 vitiligo and 10,000 psoriasis patients across multiple Indian cities through a hybrid in-person and telemedicine delivery model. Treatment adherence in these two conditions is a well-established clinical challenge: real-world topical psoriasis adherence rates fall as low as 35–72% of the prescribed dose, and the slow repigmentation trajectory in vitiligo is directly linked to declining long-term compliance. Despite this, Kayakalp Global, like most Indian integrative providers, does not systematically analyse patient-reported feedback at scale.

This study analyses 3,821 Google My Business (GMB) reviews of Kayakalp Global to assess overall patient satisfaction and identify the thematic drivers of treatment compliance and non-compliance, using a keyword-anchored mixed-method content analysis framework grounded in the WHO's five-dimension model of adherence. Reviews are coded into seven themes: treatment effectiveness, doctor and staff communication, compliance and follow-up support, cost and sales pressure, trust and authenticity, side effects, and advocacy. Quantitative findings (star-rating distribution, theme frequencies, cross-tabulation by satisfaction level) are interpreted alongside the qualitative reading of review language to identify the specific service-level failures associated with patient dissatisfaction and likely dropout. The study concludes with evidence-based recommendations for compliance-strengthening interventions at Kayakalp Global.

2. Introduction

Treatment adherence, defined by the World Health Organization as the extent to which a person's behaviour corresponds with the recommendations agreed with a healthcare provider, is one of the most studied and least resolved problems in chronic disease management (1). The WHO's multidimensional model identifies five interacting determinant categories: patient-related, condition-related, therapy-related, healthcare-system-related, and socioeconomic factors. A systematic review covering nineteen disease areas confirmed that healthcare-system factors — particularly continuity of provider contact and quality of follow-up — show the most consistent adherence-related effects across conditions (2).

This framework is especially important in the Indian context, where approximately 80% of patients report some lifetime use of Ayurvedic therapy alongside or instead of allopathic care (3). Contemporary Indian integrative medicine has evolved beyond individual vaidya practices into multi-city, branded clinical organisations that combine Ayurvedic formulations and dietary guidance (Pathya-Apathya) with modern diagnostics and pharmacology. In this organisational model, compliance is not purely a clinical question but an operational one: the reliability of remote follow-up calls, the consistency of dietary counselling across cities, and the transparency of cost communication all become direct compliance levers.

Kayakalp Global's specific clinical focus — vitiligo and psoriasis — makes patient compliance an acute concern. Both are chronic, slow-responding, visually prominent conditions. Systematic reviews of topical psoriasis treatment adherence describe long-term compliance as “abysmal”, with dropout occurring within weeks of treatment initiation even in controlled settings (4). Vitiligo's slow repigmentation trajectory is directly linked to declining adherence and quality-of-life burden (5). The 2–3 month gap between initiating treatment and seeing a first visible result is precisely the window in which most adherence breakdown occurs — and it is also the window where structured provider contact has the most documented power to sustain engagement (6).

Kayakalp Global generates over 3,800 Google My Business reviews from patients describing their experience, motivation, and outcomes in their own words. This naturally occurring corpus has not previously been systematically analysed. It represents a significant, low-cost evidence base for understanding compliance behaviour and satisfaction drivers at scale — and this study is the first to apply GMB review mining, a methodology already validated for primary care settings internationally (7), to an Indian integrative dermatology provider.

3. Literature Review

The literature informing this study spans three bodies of work: the broader adherence science literature, the dermatology-specific adherence evidence, and the emerging methodology of online patient review mining.

3.1 Adherence Theory and the WHO Model

The WHO's 2003 report on adherence to long-term therapies established the foundational five-dimension framework — patient, condition, therapy, healthcare-system, and socioeconomic factors — which this study uses as its primary analytical lens (1). A 2013 review of systematic reviews confirmed that no single dimension reliably predicts adherence in isolation; rather, adherence outcomes emerge from the interaction of all five, with healthcare-system factors showing the most consistent and actionable effects (2). The specific implication for a remote-delivery integrative provider is that follow-up reliability and communication quality are more tractable intervention targets than, for instance, patient motivation or disease severity.

3.2 Ayurveda Patient Satisfaction in India

Cross-sectional research in Mumbai found that approximately 80% of Indian patients report lifetime use of Ayurvedic therapy, positioning integrative providers as mainstream rather than marginal (3). A 2025 systematic review synthesising twenty Indian studies on Ayurveda and allopathy knowledge, attitude, and satisfaction found consistently high patient satisfaction with Ayurvedic care — particularly around personalisation and perceived lower side-effect burden — but also noted weak clinical integration and low patient knowledge of appropriate use (8). A separate 2025 narrative review concluded that coordinated

integrative delivery models improve satisfaction and reduce side-effect burden relative to parallel, disconnected systems of care (9). These findings confirm high satisfaction as the baseline expectation while identifying integration quality and patient education as structural vulnerabilities.

3.3 Dietary Compliance in Ayurveda: Pathya-Apathya

The classical Ayurvedic doctrine of Pathya-Apathya — the prescription of wholesome foods and lifestyle alongside the proscription of aggravating ones — creates a continuous compliance requirement distinct from discrete medication adherence (10). Departure from prescribed diet is consistently identified as a primary driver of poor outcomes and recurrence in Ayurvedic clinical literature. In an organisational context, the dietitian or counsellor touchpoint therefore carries a dual function: clinical guidance and ongoing adherence monitoring.

3.4 Adherence in Vitiligo and Psoriasis

For psoriasis, a systematic review of topical treatment adherence found real-world application rates of 35–72% of prescribed dose over windows as short as two to eight weeks, driven by low perceived efficacy, time burden, and unfavourable cosmetic experience (4). A one-year electronic-monitoring randomised trial described adherence as “abysmal”, with decline occurring rapidly after initiation (11). A Danish RCT tested whether structured nurse-delivered follow-up — regular contact, reminder systems, relationship-building — could improve long-term adherence, treating healthcare-system contact as the active intervention ingredient (6). For vitiligo, a 2022 systematic review of 130 studies identified slow repigmentation and prior treatment failure as the leading adherence barriers, alongside substantial quality-of-life burden (5). A 2026 review further documented the bidirectional cycle between visible disease burden and psychological distress affecting treatment engagement (12).

3.5 Online Patient Reviews as a Research Method

A 2025 text-mining study developed the HSQ-5D framework from large-scale online doctor reviews, demonstrating that provider expertise, process, attitude, empathy, and outcome dimensions extracted from review text explained over 85% of variance in patient demand (7). A 2025 study analysing 55,043 Google Maps reviews across primary healthcare sites in Finland and Spain confirmed that star ratings and review-text sentiment move consistently together, validating GMB reviews as a reliable patient experience research data source (13). The present study is the first application of this methodology to an Indian integrative dermatology provider, filling a gap in both the Ayurveda patient satisfaction literature and the healthcare review-mining literature.

4. Objectives

4.1 General Objective

To analyse patient-generated Google My Business reviews of Kayakalp Global in order to assess patient satisfaction and identify the thematic drivers of treatment compliance and non-compliance in an integrative Ayurveda-Allopathy dermatology setting.

4.2 Specific Objectives

- To quantify the distribution of patient satisfaction through star ratings and benchmark findings against the proportion of reviews citing visible treatment improvement.
- To develop and apply a thematic coding framework — grounded in the WHO multidimensional model of adherence — to classify patient-generated review content into compliance-relevant categories.
- To cross-tabulate theme frequencies against satisfaction level (positive, neutral, negative reviews) in order to isolate the specific service failures associated with patient dissatisfaction.
- To analyse explicitly stated treatment timelines in review text to quantify the gap between treatment initiation and first perceived improvement, and to benchmark this against the clinical literature on slow-response adherence risk in vitiligo and psoriasis.
- To benchmark overall findings against the published literature on adherence in integrative Ayurvedic care, dermatological conditions, and online patient review research.
- To develop evidence-based, operationally actionable recommendations for Kayakalp Global to strengthen patient compliance and satisfaction.

5. Methodology

This study follows a descriptive, mixed-method secondary data analysis design. The quantitative component involves the statistical analysis of star-rating distributions and the frequency of thematic codes across 3,821 GMB reviews. The qualitative component involves close reading and thematic interpretation of review text to identify compliance-related patterns, service failures, and patient language around treatment timelines. The approach is observational and cross-sectional — capturing the cumulative stock of reviews available at the time of data extraction (June 2026) without any experimental manipulation or direct patient contact.

5.1 Data Source and Sampling

Review data was extracted from the publicly available Google My Business listing of Kayakalp Global using an automated Google Maps review-scraping tool. The raw extraction yielded 3,827 records. After removing six exact duplicate entries (same reviewer name, rating, and text), the working corpus comprised 3,821 reviews, of which 3,094 (81%) included free-text comments in addition to a numeric star rating. The study uses a census of the available review population rather than a drawn sample, eliminating sampling error as

an analytic concern. The data is entirely secondary and publicly available; no patient contact, clinical examination, or access to medical records was involved.

5.2 Thematic Coding Framework

Because the review corpus is naturally code-mixed — containing English, Hindi (Devanagari script), and Hinglish (transliterated Hindi-English) — the study uses a keyword-anchored content analysis framework rather than an English-calibrated sentiment classifier. Seven thematic categories were developed deductively from the WHO adherence model and the dermatology-specific adherence literature, then refined inductively by reading a stratified sample of reviews across all star ratings. Each review is coded as a binary match (present/absent) per theme, allowing multi-theme coding of a single review. The seven themes and their WHO model mapping are: Treatment Effectiveness / Visible Results (condition-related), Doctor/Staff Communication and Empathy (healthcare-system-related), Compliance and Follow-up Support (healthcare-system-related), Cost, Sales Pressure and Value (socioeconomic), Trust and Authenticity Concerns (therapy-related), Side Effects / Adverse Reaction (therapy-related), and Advocacy / Recommendation (patient-related outcome proxy).

5.3 Plan of Analysis

Analysis proceeds in four stages: descriptive statistics on the star-rating distribution (mean, band proportions); overall theme frequency across the text-bearing corpus; cross-tabulation of theme frequencies against satisfaction bands (positive 4–5 star, neutral 3 star, negative 1–2 star) to identify satisfaction-negative themes; and targeted pattern extraction of explicit treatment-duration mentions in review text to quantify the slow-response timeline. All analysis is conducted in Python using pandas and matplotlib. The coding framework is validated by confirming that satisfaction-positive themes occur significantly more frequently in high-rated reviews and satisfaction-negative themes in low-rated reviews.

5.4 Ethical Considerations

This study uses only publicly available, voluntarily posted review data. No reviewer-identifying information is reproduced in any output. All illustrative examples in the findings are paraphrased and anonymised. The study is consistent with the spirit of ethical research practice for secondary, public-domain data analysis.

6. Expected Outcomes

The study is expected to produce a set of quantitative and qualitative outputs that together provide Kayakalp Global with an evidence base for compliance-strengthening action.

On the quantitative side, the analysis is expected to confirm high overall patient satisfaction (mean rating 4.5 or above) with treatment effectiveness as the dominant subject of patient feedback, consistent with the

organisation’s strong clinical reputation. However, the cross-tabulation analysis is expected to reveal a consistent pattern of post-payment follow-up failures and cost-communication concerns in negative reviews — a structural compliance risk signal that is unlikely to be visible from aggregate rating data alone. The timeline analysis is expected to identify approximately 3 months as the median patient-reported time to visible improvement, directly corroborating the slow-response adherence risk window identified in the clinical literature.

On the qualitative side, the study is expected to identify the specific language patients use to describe compliance support failures (or its absence), which will translate directly into actionable organisational recommendations. These recommendations are expected to cover: a calendarised follow-up protocol that does not attenuate after payment; a patient-education touchpoint at the 6–8 week mark to set expectations ahead of the 3-month threshold; pre-payment cost and process transparency; disclosure of treatment formulation composition; and formal reinforcement of the dietary-compliance (Pathya-Apathya) check-in cadence.

From an academic standpoint, the study is expected to contribute the first empirical application of Google Maps review mining to an Indian integrative Ayurveda-Allopathy dermatology provider, extending a validated international methodology into a new clinical and cultural context and filling an identified gap in both the Ayurveda patient satisfaction literature and the healthcare analytics literature on adherence in chronic dermatological conditions.

7. Tentative Timeline

The dissertation is planned for completion over the sixteen-week internship period. The timeline is indicative and may be adjusted based on data availability and faculty guide feedback.

Phase	Activity	Duration
Phase 1	Literature review, refinement of research questions and objectives, synopsis submission and approval	Weeks 1–2
Phase 2	Data extraction: GMB review scraping, deduplication, and text cleaning of the 3,821-review corpus	Weeks 3–4
Phase 3	Keyword-anchored thematic coding framework development and validation against star ratings	Weeks 5–6
Phase 4	Quantitative analysis: star-rating distribution, theme frequency counts, cross-tabulation by satisfaction band	Weeks 7–9
Phase 5	Timeline extraction analysis (patient-reported months to improvement); qualitative reading of review patterns per theme	Weeks 10–11

Phase	Activity	Duration
Phase 6	Drafting of findings chapters, discussion, and evidence-based recommendations	Weeks 12–13
Phase 7	Faculty guide review, incorporation of feedback, plagiarism check, and final dissertation and PPT submission	Weeks 14–16

8. References

References are listed in Vancouver style, consistent with the citation convention used in the main dissertation.

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