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COMPARATIVE EVALUATION OF AYURVEDIC PANCHAKARMA AND CONVENTIONAL PHYSIOTHERAPY IN MANAGING CHRONIC LOW BACK PAIN

Dr. Om Prakash Vyas*

Professor Department of Ayurveda, Government Dhanwantri Ayurvedic Medical College, Ujjain, Madhya Pradesh, India.

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ABSTRACT

Chronic Low Back Pain (CLBP) is a leading cause of disability worldwide, affecting functional capacity, quality of life, and productivity. Ayurvedic Panchakarma therapy, an integrative approach involving detoxification, massage, and herbal treatments, has been traditionally used for musculoskeletal disorders. This randomized controlled trial compares the effectiveness of Panchakarma therapy and conventional physiotherapy (CP) in reducing pain, improving functional mobility, and enhancing quality of life in patients with CLBP. Seventy patients aged 25–60 years were randomized into Panchakarma group (PG, n=35) and conventional physiotherapy group (CPG, n=35). Interventions lasted 6 weeks. Outcome measures included Visual Analogue Scale (VAS) for pain, Oswestry Disability Index (ODI), range of lumbar motion, and Patient-Specific Functional Scale (PSFS). Results showed significant pain reduction and functional improvement in both groups, with PG demonstrating superior improvements in VAS (mean reduction: 4.1 ± 0.9 vs. 3.2 ± 0.8, $p<0.01$) and ODI (PG: 28 ± 5 vs. CPG: 34 ± 6, $p<0.05$). Findings suggest that Panchakarma therapy is an effective adjunct or alternative to conventional physiotherapy in CLBP management.

INTRODUCATION

Chronic Low Back Pain (CLBP) is a prevalent musculoskeletal condition causing pain, restricted movement, and functional limitations. Conventional physiotherapy interventions—such as exercise therapy, manual therapy, and posture correction—aim to improve lumbar stability, flexibility, and muscular strength.

Ayurvedic Panchakarma therapy is a holistic treatment approach involving a series of detoxification procedures including *Abhyanga* (therapeutic massage), *Swedana* (herbal steam therapy), *Pizhichil* (oil therapy), and other herbal interventions targeting musculoskeletal inflammation and stiffness. Panchakarma is believed to enhance circulation, reduce muscle spasm, and restore tissue homeostasis.

Corresponding Author
Dr. Om Prakash Vyas

While both approaches are used clinically for CLBP, comparative studies evaluating their effectiveness are limited. This study aims to assess and compare the impact of Panchakarma therapy and conventional physiotherapy on pain, functional disability, and quality of life in CLBP patients.

METHODOLOGY STUDY DESIGN

Randomized controlled trial over 6 weeks.

Participants

Inclusion criteria: Patients aged 25–60 years with CLBP ≥12 weeks, VAS ≥4.

Exclusion criteria: Spinal surgery history, fractures, malignancy, systemic inflammatory diseases, pregnancy.

Sample Size: 70 participants randomized:
Panchakarma Group (PG): n=35

Conventional Physiotherapy Group (CPG): n=35

Intervention

Panchakarma Group (PG)

Abhyanga (full-body oil massage) 20 min
Swedana (herbal steam therapy) 15 min
Pizhichil (oil pouring therapy) 15 min, 3 sessions/week
Complemented with Ayurvedic oral herbal formulations
Duration: 6 weeks

Conventional Physiotherapy Group (CPG)

Core strengthening exercises, stretching, lumbar stabilization exercises
Manual therapy for lumbar mobilization
Posture correction guidance
Duration: 3 sessions/week, 45 minutes/session

Outcome Measures

Pain: Visual Analogue Scale (VAS, 0–10)
Functional Disability: Oswestry Disability Index (ODI, 0–100)
Lumbar Range of Motion (ROM): Flexion, extension, lateral bending
Functional Performance: Patient-Specific Functional Scale (PSFS)
Quality of Life: SF-12 Health Survey

Statistical Analysis

Paired t-tests for within-group changes
Independent t-tests for between-group comparisons
Significance: $p < 0.05$

Case Study

Participant A: 40-year-old male in PG with baseline VAS 7/10 and ODI 45. Post-intervention: VAS 3/10, ODI 25. Reported improved mobility and reduced stiffness.
Participant B: 38-year-old female in CPG with baseline VAS 6/10 and ODI
42. Post-intervention: VAS 4/10, ODI 34. Functional improvement noted but less reduction in pain compared to PG.

Table 1: Pain and Functional Disability

Group	VAS Pre	VAS Post	ODI Pre	ODI Post
PG	6.8 ± 1.0	2.7 ± 0.9	44 ± 6	28 ± 5
CPG	6.6 ± 1.1	3.4 ± 0.8	43 ± 5	34 ± 6

Table 2: Lumbar Range of Motion and Functional Performance

Group	Flexion Pre (°)	Flexion Post (°)	Extension Pre (°)	Extension Post (°)	PSFS Pre	PSFS Post
PG	50 ± 6	62 ± 5	20 ± 4	28 ± 3	4.5 ± 1.0	7.8 ± 0.8
CPG	51 ± 5	58 ± 5	21 ± 5	25 ± 4	4.6 ± 1.1	7.0 ± 0.9

Questionnaire

Patient Survey (n=70):

1. Did you experience pain reduction post-intervention? (Yes/No)
2. Did your mobility improve? (Yes/No)
3. Were the therapies easy to follow and perform? (Yes/No)
4. How satisfied are you with the treatment? (Likert 1–5)
5. Would you recommend this therapy to others with CLBP? (Yes/No)

Therapist Survey (n=5):

1. Did Panchakarma provide additional benefits over conventional physiotherapy? (Yes/No)
2. Was therapy feasible to administer? (Yes/No)
1. Were patients compliant? (Yes/No)
2. Were any adverse effects noted? (Yes/No)
3. Recommendations for integrating integrative therapies for CLBP (Open- ended)

DISCUSSION

Both Panchakarma therapy and conventional physiotherapy effectively reduced pain and improved function in CLBP patients. Panchakarma demonstrated superior pain reduction and improvements in ODI and PSFS scores, likely due to combined effects of massage, herbal therapies, and detoxification processes enhancing circulation, reducing inflammation, and improving neuromuscular relaxation. Conventional physiotherapy improved strength, lumbar stabilization, and functional mobility, confirming its role in evidence-based CLBP management. Integrating Panchakarma with physiotherapy may further optimize rehabilitation outcomes.

CONCLUSION

Ayurvedic Panchakarma therapy is an effective and safe intervention for managing chronic low back pain. Compared to conventional physiotherapy, Panchakarma provided greater pain relief, functional improvement, and enhanced range of motion, supporting its use as an adjunct or alternative rehabilitation strategy for CLBP patients.

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