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Case Report

Integrative Management of Nonspecific Low Back Pain Using Bukhoor (Herbal Medicated Steam): Clinical Insights from a Case Series Bridging Traditional and Contemporary Therapies

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Abstract

Background: Nonspecific low back pain (NSLBP) is a common condition that affects people across all age groups and can significantly impact daily functioning and quality of life. Conventional treatments, such as pain medications and physical therapy, often provide only partial relief and may be associated with side effects, especially with long-term use. As a result, there is growing interest in traditional systems of medicine, including Unani, which offer holistic and non-invasive treatment options.

Objective: This case series aims to explore the potential benefits of Bukhoor therapy an herbal medicated steam treatment used in Unani medicine in managing chronic NSLBP.

Methods: Three individuals with chronic NSLBP were treated with Bukhoor therapy using *Tukhme Soya* (Anethum sowa). Each patient received 10-minute steam sessions on alternate days for a total of 21 days. The severity of pain and level of disability were measured using the Visual Analog Scale (VAS) and the Oswestry Disability Index (ODI) before and after the treatment period.

Results: All three patients reported noticeable improvements in both pain levels and functional ability. VAS and ODI scores showed consistent reductions from baseline to the end of treatment. No adverse effects were observed, and all patients tolerated the therapy well.

Conclusion: These preliminary findings suggest that Bukhoor therapy may serve as a safe and promising complementary treatment for chronic NSLBP. Further research, including larger and controlled studies, is needed to establish its efficacy and integrate it more effectively into comprehensive pain management strategies.

Keywords: Nonspecific low back pain, Unani medicine, Ilaj bit Tadbeer, Medicated steam, Bukhoor therapy

Introduction

Nonspecific low back pain (NSLBP) is one of the leading causes of disability worldwide, affecting nearly 80% of individuals at some point during their lives and contributing significantly to healthcare costs and lost productivity [1]. It is characterized by musculoskeletal pain in the lumbar region without an identifiable cause such as infection, malignancy, or fracture. Although often self-limiting, NSLBP can become chronic and functionally disabling, especially when not adequately managed. Conventional approaches, including non-steroidal anti-inflammatory drugs (NSAIDs), physical therapy, and cognitive behavioral interventions, have shown moderate success. However, long-term pharmacological use is often limited by side effects and incomplete relief, prompting a growing interest in integrative and traditional systems of medicine [2].

The Unani system of medicine conceptualizes NSLBP as *Waja-al-Zahr*, primarily caused by the accumulation of morbid matter (*Kham Madda*) and disturbance in the humoral balance (*Su-e-Mizaj*), particularly involving cold and moist temperaments in the affected region [3]. Treatment in Unani relies heavily on Ilaj bil Tadbeer (regimenal therapy), including interventions such as massage (*Dalk*), cupping (*Hijama*), and medicated steam therapy (*Bukhoor*), aimed at eliminating accumulated humors and restoring physiological balance.

Bukhoor therapy, in particular, utilizes herbal-infused steam to warm and detoxify the affected area. This method has been reported in classical texts and clinical case studies to enhance blood flow, reduce stiffness, and relieve pain. For example, a case report by Ansari et al. demonstrated the successful use of *Inkibab* (steam) and *Hijama Muzliqa* (massage cupping) to completely resolve

NSLBP symptoms within six days [4]. Another clinical trial found significant improvement in pain and mobility using Bukhoor in combination with Unani massage and herbal oils [5]. Modern science supports the physiological rationale for such treatments. Heat-based therapies are known to dilate blood vessels, increase local circulation, and reduce muscle spasms, which can contribute to pain relief and functional improvement. Validated tools such as the Visual Analog Scale (VAS) and Oswestry Disability Index (ODI) are often used to quantify these improvements and assess treatment outcomes [6].

This case series presents three patients with chronic NSLBP who underwent Bukhoor therapy based on Unani principles. The objective is to evaluate the clinical effectiveness of this traditional approach using pain and disability outcome measures.

Methodology

Selection of a case

Already diagnosed patients of non-specific low back pain from Ilaj bit Tadbeer OPD of Ajmal Khan Tibbiya College, A.M.U, Aligarh, India.

Informed consent

Before the intervention began, informed consent was obtained, and the patient willingly agreed to participate in the study.

Case presentation

Case 1

The first case involved a 36-year-old woman working in an office setting, who had been experiencing persistent, dull low back pain for nearly eight months. The discomfort, particularly aggravated by prolonged sitting, was interfering with her work and daily tasks. At baseline, her VAS score was 7 and ODI was 46%, indicating moderate disability. She underwent Bukhoor therapy with *Tukhme soya (Anethum sowa)*, applied as steam for 10 minutes alternate day for 21 days. By the end of the week, her VAS score had reduced to 3, and her ODI improved to 26%, indicating a shift to minimal disability. She also reported improved flexibility and decreased muscle stiffness.

Case 2

The second patient, a 45-year-old male manual laborer, presented with a year-long history of intermittent sharp back pain, worsened by lifting and bending. His VAS score was 8 and ODI was 52%, reflecting moderate-to-severe functional limitation. He received Bukhoor therapy with Tukhme soya (Anethum sowa) for 10 minutes on alternate days over a period of 21days. Following treatment, his VAS score dropped to 2, and his ODI improved to 18%, marking a substantial functional recovery. He reported enhanced mobility and reduced dependence on pain medication.

Case 3

The third case featured a 29-year-old homemaker who experienced lower back pain exacerbated by prolonged standing during household activities. She had been dealing with these symptoms for six months, with a baseline VAS of 6 and ODI of 38%. He received Bukhoor therapy with Tukhme soya (Anethum sowa) for 10 minutes on alternate days over a period of 21days. Post-treatment, her VAS decreased to 2, and her ODI reduced to 20%, reflecting better tolerance to daily physical activities and improved quality of life.

Across all three cases, Bukhoor therapy resulted in marked reductions in pain intensity and disability scores. The treatment was well-tolerated, and no adverse effects were reported. These outcomes suggest that medicated steam therapy, grounded in Unani medicine, may offer a safe, non-invasive, and effective alternative for managing NSLBP when personalized and administered consistently.

Results

The patient's symptoms and signs significantly improved with Bukhoor after treatment as shown in Table 1 and Figure 1.

Table 1

Case	Age/Sex	Occupation	Duration of NSLBP	Duration of Therapy	Pre score VAS	Post score VAS	Pre score ODI	Post score ODI	Clinical findings
1	36/F	Office worker	8months	21 days, 10 min/day	7	3	46%	26%	Marked pain relief, improved flexibility, no adverse effects
2	45/M	Manual laborer	1 year	21 days, 10 min/day	8	2	52%	18%	Significant improvement, reduced dependency on medication
3	29/F	Homemaker	6months	21 days, 10 min/day	6	2	38%	20%	Better postural endurance, reduced stiffness

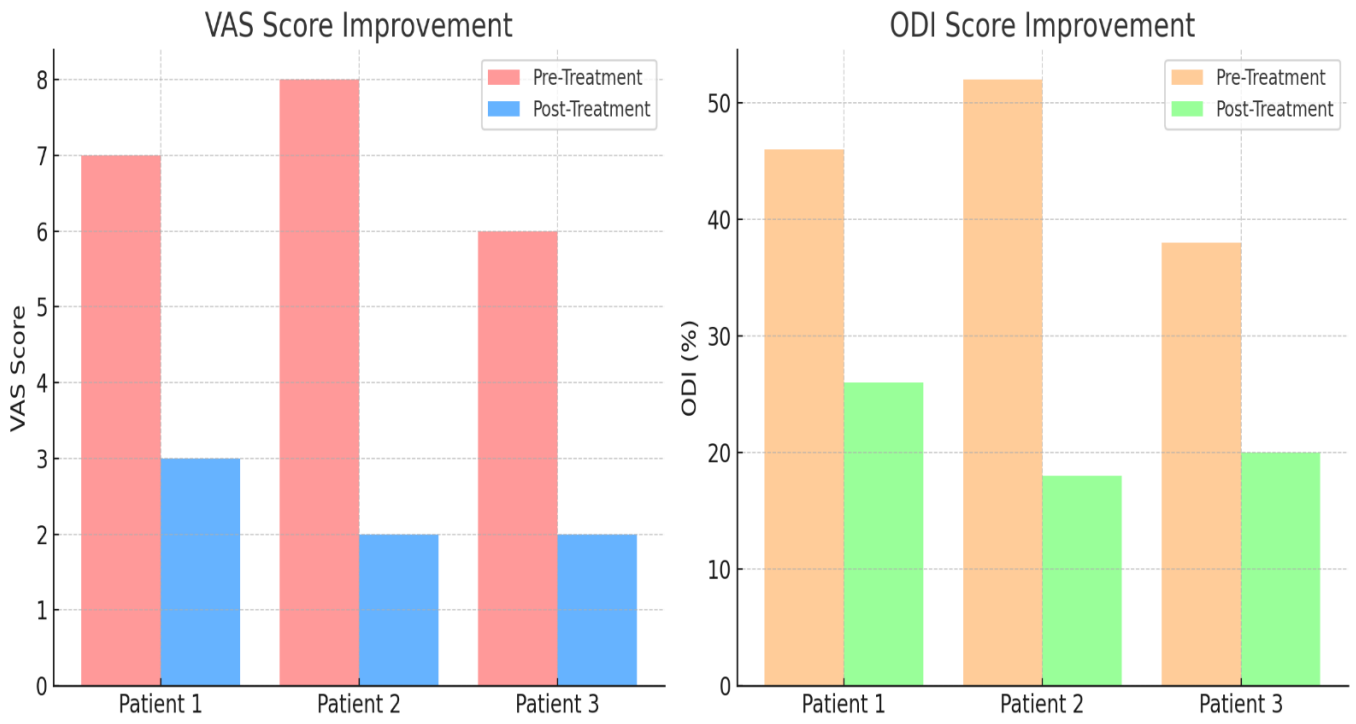

Figure 1

Discussion

The outcomes observed in this case series support the potential effectiveness of Bukhoor therapy a form of medicated steam used in Unani medicine in the management of nonspecific low back pain (NSLBP). All three patients reported substantial improvements in pain (VAS) and functional disability (ODI) following a structured 21-day regimen using *Tukhme Soya* (Anethum sowa) as the herbal base. Importantly, these benefits were achieved without the use of conventional pharmacological agents, highlighting Bukhoor potential as a non-invasive and well-tolerated therapy for back pain.

The improvements observed in VAS and ODI are consistent with clinical significance, particularly in the context of chronic NSLBP where treatment effects are often modest [1]. The outcomes also align with earlier Unani clinical studies that report high response rates using combined regimenal therapies such as *Hijama*, *Dalk*, and *Bukhoor* for musculoskeletal disorders [2,3].

From an Unani perspective, the warming nature of *Bukhoor* addresses the dominant cold and moist temperament often implicated in *Waja-uz-Zahr* (low back pain) by facilitating Tanqiya-e-Madda the removal of stagnant or pathological humors from joints and tissues. The chosen herb, *Tukhme Soya* (Anethum sowa), is traditionally used for its warming, anti-spasmodic, and anti-inflammatory effects, making it particularly suitable for relieving localized pain and stiffness [4, 5].

The treatment's mechanism of action can also be appreciated through a modern perspective. The application of herbal steam leads to vasodilation, increased tissue perfusion, and muscle relaxation, all of which help alleviate musculoskeletal discomfort [6]. The soothing thermal effect likely contributed to reductions in muscle tension and increased mobility, as reported by all three participants. These physiological effects, combined with the anti-inflammatory properties of herbal volatiles, may explain the consistent improvements in VAS and ODI scores.

These findings are also supported by broader evidence on heat-based and physical therapies in NSLBP management. For example, recent guidelines recommend non-pharmacological interventions such as thermal therapy, exercise, and manual therapies as first-line treatments for chronic low back pain, with growing interest in individualized, multimodal approaches [7,8].

It is also notable that no adverse effects were reported across all cases, underscoring the safety profile of Bukhoor therapy when administered correctly. The simplicity of the procedure, low cost, and use of readily available herbs make it especially appealing in low-resource or integrative medicine settings.

Despite the positive outcomes, this case series has limitations. The sample size is small, and there was no control group or blinding. The therapeutic response could also be influenced by placebo effect or regression to the mean. Nonetheless, the consistency of improvements across diverse patient profiles provides a strong rationale for conducting larger, controlled studies.

Conclusion

This case series suggests that *Bukhoor therapy*, as practiced in Unani medicine, may serve as an effective adjunct or alternative in managing chronic nonspecific low back pain. When integrated with modern outcome assessments such as VAS and ODI, it shows promise in both reducing pain and improving function. Further

clinical trials with standardized protocols and larger populations are essential to confirm these preliminary findings and to establish evidence-based guidelines for its broader clinical use.

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