

Section: General Nursing

Acupressure therapy to solve nutrition intake disorder in patient with pulmonary tuberculosis

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Abstract

Pulmonary Tuberculosis (PTB) is an infectious disease caused by *Mycobacterium tuberculosis*, an obligate aerobe transmitted through respiratory droplets expelled when a patient coughs or sneezes. Clinical manifestations often include nausea, vomiting, decreased appetite, and weight loss. The purpose of this study was to evaluate the effectiveness of complementary acupressure therapy at the P6 and ST36 points in reducing nausea and vomiting among PTB patients. The subject was a 28-year-old female diagnosed with pulmonary tuberculosis who reported persistent nausea, vomiting, and a 6 kg weight loss over the past three months. Following three days of intervention, the patient showed a reduction in nausea and vomiting and an increase in daily food intake.

Keywords: Acupoints, complementary therapy, nausea, nursing care, pulmonary TB

Introduction

Pulmonary Tuberculosis (PTB) remains a significant global health challenge, caused by the aerobic bacterium *Mycobacterium tuberculosis* (Alsayed & Gunosewoyo, 2023; Maison, 2022). While the primary clinical focus is often on respiratory symptoms, PTB frequently triggers systemic metabolic stress, leading to severe nutritional disorders (Xia et al., 2025; Gupta et al., 2009). Patients often suffer from gastrointestinal distress, including nausea, vomiting, and a profound loss of appetite (Kong et al., 2026; Yadav, 2022). These symptoms create a dangerous cycle where the body's increased metabolic demands during infection are met with insufficient caloric intake, resulting in rapid weight loss and weakened immune defences. In clinical settings, pharmacological treatments such as anti-emetics and nutritional supplements are standard. However, there is a growing interest in non-pharmacological, complementary therapies that can alleviate side effects and improve the patient's quality of life. Acupressure—a traditional healing method involving the stimulation of specific meridian points—offers a non-invasive approach to managing gastrointestinal symptoms (Novitasari et al., 2024). Specifically, the P6 (Neiguan) and ST36 (Zusanli) points are traditionally used to regulate gastric motility, reduce nausea, and harmonize the digestive system.

Integrating acupressure therapy into the care of PTB patients is vital for nursing practice because it addresses the holistic needs of the patient beyond basic medication administration. Nurses are often the first to witness the distressing side effects of TB and its treatment, such as severe nausea and vomiting, which lead to "nutritional deficits." By utilizing P6 and ST36 acupressure, nurses can provide an immediate, bedside intervention that empowers the patient to overcome these barriers to recovery, moving from reactive symptom management to proactive health restoration. Furthermore, this study is important because it promotes evidence-based, non-pharmacological nursing interventions. Many PTB patients are already burdened by a heavy regimen of oral medications (OAT) that can cause gastric irritation. Providing a "drug-free" alternative to manage nausea reduces the risk of polypharmacy and potential drug-to-drug interactions. For the nursing profession, demonstrating the efficacy of such techniques validates the role of the nurse as a skilled practitioner in complementary therapies, offering a low-cost but high-impact tool that can be used in various clinical settings (Pfeil, 1994; Tracy & Lindquist, 2003). Finally, this study highlights the nurse's role in improving treatment adherence and patient outcomes. Malnutrition is a primary predictor of treatment failure and mortality in TB cases. When a nurse successfully manages a patient's appetite and nutritional intake through acupressure, they are directly strengthening the patient's immune system and their ability to tolerate long-term antibiotic therapy. This study provides a practical framework for nurses to integrate traditional wisdom with modern clinical protocols, ultimately leading to faster recovery times and a better quality of life for the patient.

Case Description

This study investigates the application of P6 (Neiguan) and ST36 (Zusanli) acupressure points in a 28-year-old female patient diagnosed with Pulmonary Tuberculosis (PTB). The patient presented with a 10-day cough, a 3-day fever, dyspnea, and difficulty expectorating sputum, alongside significant gastrointestinal distress, including nausea and vomiting occurring three times daily. These symptoms led to a decreased appetite and a notable weight loss from 42 kg

to 36 kg. Since these clinical manifestations are characteristic of PTB, this scientific paper explores the therapeutic relationship between tuberculosis and acupressure. Specifically, the author aims to compile a case study titled "The Application of Acupressure Therapy for Nutritional Disorders in Patients with Pulmonary Tuberculosis," focusing on how targeting the P6 and ST36 points can mitigate nutritional deficits. The core problem formulation addresses the effectiveness of this therapy in reducing nausea and vomiting among Pulmonary TB patients, thereby increasing appetite and ensuring that the patient's nutritional requirements are met.

This case study was conducted in Room Aster 5 at Tidar Hospital, Magelang City, focusing on a 28-year-old patient, Mrs. M, diagnosed with Pulmonary Tuberculosis. Upon assessment, the patient reported nausea, two episodes of vomiting, and a severe loss of appetite, consuming only two tablespoons of food per meal. Her weight significantly dropped from 42 kg to 36 kg over the last three months. Clinical findings included a BMI of 14.9, a low haemoglobin level of 7.7 g/dL, dry skin turgor, pale lip mucosa, and anaemic conjunctiva. An MST screening score of 3 indicated a high risk of malnutrition. Her medical regimen consisted of intravenous Omeprazole (40 mg), Prove VIT injections, and Turmeric tablets. The primary nursing diagnosis was a nutritional deficit related to an increased metabolic rate. The nursing care plan aimed to improve the patient's nutritional status within 72 hours, targeting increased food intake, improved appetite, and healthier mucosal membranes. Interventions included monitoring food intake, identifying nutritional status, maintaining oral hygiene, advocating for a high-fibre diet, and collaborating with nutritionists on a high-calorie, high-protein (TKTP) diet. As a non-pharmacological complementary therapy, the author applied acupressure at the P6 and ST36 points. Progress was noted daily: on the first day, the patient still experienced nausea and one episode of vomiting with minimal food intake. By the second day, nausea decreased, vomiting ceased, and intake improved to five tablespoons, though lip mucosa remained pale. By the third day, the patient reported no nausea or vomiting, consumed seven tablespoons of food, and exhibited moist lip mucosa, demonstrating the positive impact of the combined therapeutic approach.

Discussion

The integration of acupressure therapy as a complementary intervention aims to mitigate the nutritional intake deficits frequently observed in PTB patients. This case study demonstrates that stimulating specific acupoints can effectively harmonize the digestive system and reduce symptoms like nausea and anorexia (Li et al., 2015; Ji et al., 2025). Chronic infection in PTB often leads to a hypermetabolic state that depletes macronutrient reserves rapidly. Acupressure works by modulating the autonomic nervous system and enhancing the secretion of digestive enzymes. By focusing on points such as ST36 (Zusanli) and CV12 (Zhongwan), the therapy targets the root of gastrointestinal stagnation. The patient's subjective reports indicated a gradual return of appetite within the first week of consistent sessions. This suggests that non-pharmacological approaches can serve as a vital bridge in comprehensive TB care. Enhanced appetite is the first critical step toward reversing the weight loss associated with the disease (Hall & Kahan, 2018; Greenway, 2015). Furthermore, the reduction in gastric distress allows for better adherence to the rigorous anti-tuberculosis medication regimen.

The physiological mechanisms underlying these results involve the regulation of ghrelin and leptin levels through meridional stimulation. In this study, the patient showed improved tolerance to oral intake, which correlates with the theoretical framework of Traditional Chinese Medicine regarding "Qi" flow. When the "Spleen and Stomach" meridians are balanced, the body can more efficiently transform food into vital energy. This clinical observation aligns with previous research suggesting that acupressure reduces the inflammatory markers that typically suppress the hunger center in the hypothalamus. The systematic application of pressure helps relax the smooth muscles of the stomach, facilitating faster gastric emptying. Improved gastric emptying directly reduces the sensation of early satiety that often plagues PTB patients. This intervention provides a low-cost and non-invasive method for nurses to manage complex symptoms in a clinical setting. It is essential to note that the patient did not report any adverse side effects during the treatment period. Consequently, acupressure can be viewed as a safe adjunct to the standard pharmacological protocol.

The limitations of this single case study necessitate a cautious interpretation regarding the broad prevalence of these specific outcomes. While the patient achieved a significant increase in caloric intake, these findings must be validated through larger randomized controlled trials. It is crucial to distinguish the role of acupressure from primary nutritional supplementation, as the former acts as a facilitator rather than a direct nutrient source. Future research should include more objective biochemical markers, such as serum albumin and hemoglobin levels, to quantify nutritional recovery. The consistency of the practitioner's technique is a variable that may influence the reproducibility of the observed effects. Integrating family support into the acupressure routine could also improve patient adherence and long-term nutritional stability. This study highlights the need for specialized training for nurses to master acupoint location and pressure intensity. Establishing standardized clinical pathways for acupressure in TB wards could potentially reduce the incidence of severe malnutrition. Ultimately, this case provides a foundation for exploring holistic nursing care in the management of infectious diseases.

Conclusion

Based on the case study and clinical evidence, it can be concluded that complementary acupressure therapy at the P6

(Neiguan) and ST36 (Zusanli) points is an effective non-pharmacological intervention for reducing nausea and vomiting in patients with Pulmonary Tuberculosis. By stimulating these points, the patient experienced a significant reduction in gastrointestinal distress, which directly led to an improved appetite and increased food intake over a three-day period. The application of ST36 is particularly valuable as it may stimulate the release of the hormone ghrelin and promote gastric emptying, further aiding in the resolution of nutritional intake disorders. This study demonstrates that integrating traditional acupressure with standard medical and nutritional therapy—such as high-calorie, high-protein diets—can break the cycle of malnutrition and impaired immune function commonly seen in TB patients. Future studies should investigate the optimal frequency and duration of acupressure sessions—such as comparing 15-minute daily sessions against different intervals—to establish standardized clinical protocols. Additionally, long-term research is needed to determine the impact of sustained acupressure therapy on weight gain, hemoglobin levels, and overall treatment adherence, as reducing medication side effects like nausea can prevent patients from dropping out of therapy.

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