

# Addressing Somatosensory Deficits in Post-Stroke Patients

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## Introduction

- ❖ Stroke is a leading cause of disability that occurs worldwide that can affect an individual’s movements, somatosensory, cognition, speech, and vision.
- ❖ When impairments are present, they can decrease an individual’s quality of life and create caregiver burden.
- ❖ Motor, speech, and cognition impairments are often addressed during a patient’s recovery as these are deficits that can be observed objectively.
- ❖ Somatosensory impairments are often neglected as these are often unnoticed and therapists rely on a patient’s report of sensory deficits, if not observed through interventions.
- ❖ Research has found that occupational therapists (OTs) and physical therapists (PTs) have an evidence-based knowledge gap in appropriately treating these impairments.
- ❖ The purpose of this project was to see if providing an educational course to OTs would help close the knowledge gap and show the importance of using current evidence-based assessments and interventions in post-stroke survivors when identifying and addressing somatosensory impairments.

## Literature Review

Stroke stands as a prominent global cause of disability, often resulting in debilitating impairments that hinder patients' participation in daily activities and diminish their quality of life. Somatosensory deficits, affecting 50% to 80% of stroke survivors, frequently go unaddressed, with motor impairments taking precedence in rehabilitation efforts (Kessner, et al. 2019). Despite participating in rehabilitation facilities, patients often express feeling neglected regarding their somatosensory impairments.

Several factors contribute to the oversight of somatosensory deficits, including a lack of knowledge in identifying and addressing such impairments, high caseloads, and a shortage of appropriate assessments and tools to guide care plans (Pumpa, et al. 2015). Research emphasizes the critical role of assessing and intervening in sensory deficits, given the inherent connection between the somatosensory system and motor movement. Studies indicate that the integrity of the somatosensory system serves as a reliable indicator of functional mobility gains (Lv, Q., et al 2022). Consequently, it is imperative for therapists to be equipped with the ability to identify and implement evidence-based interventions for somatosensory impairments in post-stroke patients.

## Focused Question

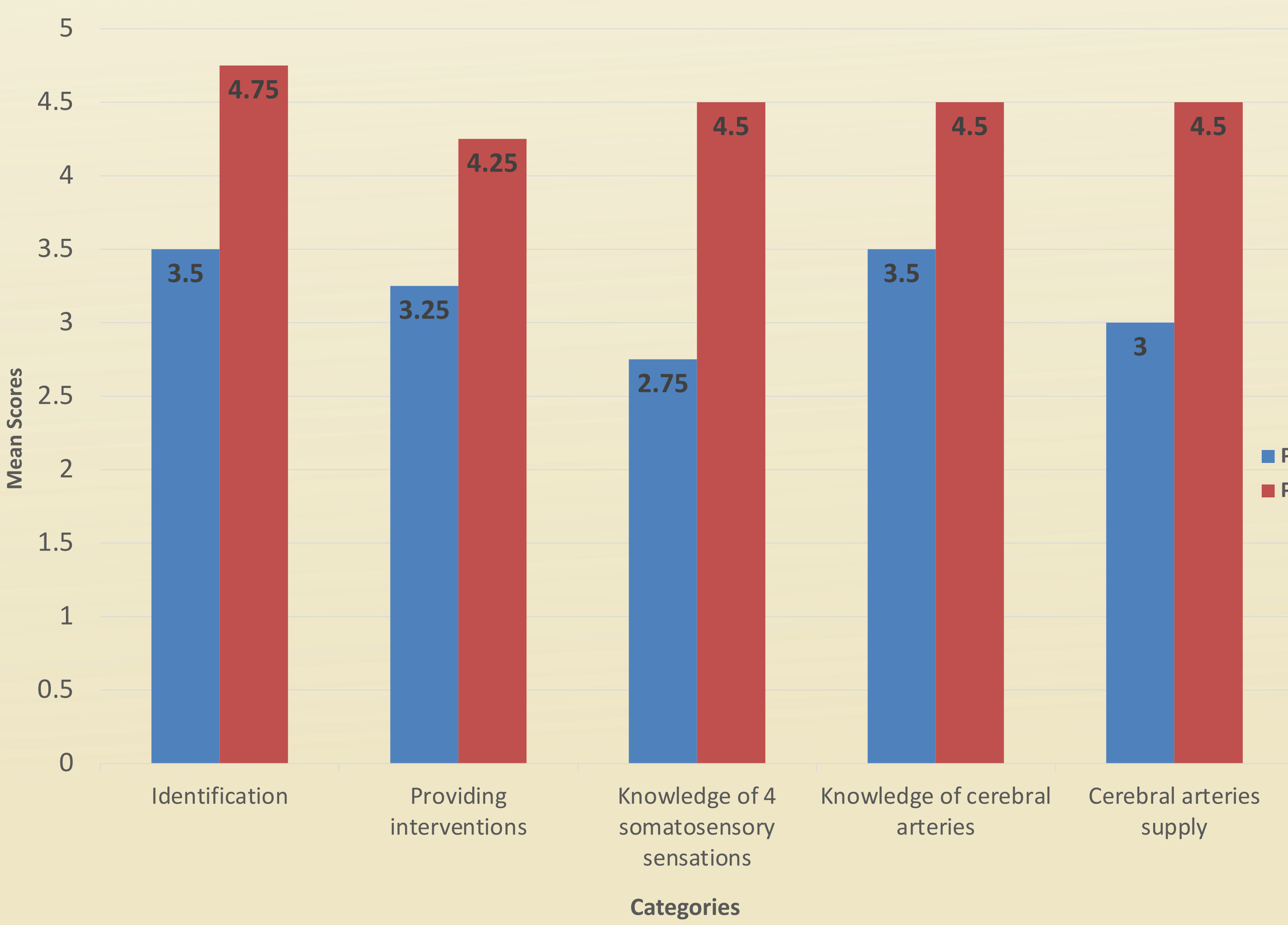
Is there a relationship between the type and location of stroke lesions and the specific patterns of sensory impairments experienced by post-stroke patients, and how does this understanding inform targeted assessment and intervention strategies?

## Method

Occupational Therapists (OTs) in the acute setting received an educational presentation. The project employed a mixed-methods design, including pretest-posttest assessments measuring knowledge, skill confidence ratings for identifying and addressing somatosensory impairments in post-stroke patients, and open-ended questions of what assessments and interventions they employed before the presentation. Quantitative data was collected through Likert scale questions, while qualitative data was gathered from open-ended questions.

## Results

The mean scores for the pretest and posttest surveys were determined by summing the scores for each participant on every question and dividing by the number of participants (4) in the pretest phase. The same calculations were then applied to each question in the posttest. Subsequently, the scores were compared to demonstrate the success of the educational course.



## Summary & Limitations

Occupational therapists recognize the crucial importance of addressing somatosensory impairments in the post-stroke population. These impairments can significantly affect an individual's ability to carry out daily activities and regain independence. Occupational therapists, who work with people of all ages facing various impairments, aim to assist individuals in adapting to life with an impairment. Their focus is on enhancing functionality and participation rather than attempting to alter the impairment itself. In aiding stroke survivors, occupational therapists play a vital role in facilitating the restoration of essential skills and educating patients on how to compensate and adapt with their existing impairments. The ultimate goal is to help patients participate actively and maintain as much independence as possible in their day-to-day lives. Utilizing educational courses to address knowledge gaps not only benefits therapists but also contributes to better outcomes for patients.

The project had limitations, including a small participant population, suggesting that future projects could yield more robust insights with a larger number of participants. Furthermore, conducting longer-term studies, such as follow-ups at 6 months post-presentation, would be beneficial to assess whether participants applied any educational material when working with post-stroke survivors. Another limitation was the absence of consultation with neuro-specialized occupational therapists or clinicians to ensure that the presentation adequately addresses the in-depth morphology and physiology of strokes. Addressing these limitations could enhance the overall effectiveness and relevance of future projects.

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