

A Randomized Controlled Trial of Massage Therapy in Children with Sickle Cell Disease

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Introduction

Sickle cell disease is an inherited blood disorder that affects the red blood cells, causing the cells to become hard and pointed instead of soft and round. The disease is a common genetic disorder in the United States with an estimated 70,000 with the disease and is considered an international health problem. Currently, the only cure that exists is a bone marrow transplant, but that option is not available to everyone.

The hallmark clinical feature of sickle cell disease is recurrent episodes of pain. The pain creates significant challenges to those affected by the disease in most aspects of daily life. Pain management includes hydration, nonsteroidal anti-inflammatory drugs and narcotics, cognitive-behavioral techniques—such as visual imagery and deep breathing—and often prayer and touch.

Touch is one form of massage that possesses a long international history as an effective pain management strategy. Massage is the practice of soft tissue manipulation that offers the physical benefits of increased blood and parasympathetic circulation, improved joint movement and psychological benefits.

Two prior studies examined the short-term effects of massage therapy on adults with sickle cell disease-induced pain and found therapeutic changes in pain and emergency department visit reductions. However, no research has solely focused on children or utilized a control group.

Key Findings from Study

- Children in the experimental group reported lower depression, anxiety and pain than the control group.
- Group differences were not found during the study with the variables of emergency department visits, hospitalizations and number of days hospitalized.
- Caregivers in the experimental group reported higher levels of anxiety and depression than caregivers in the control group at the conclusion.
- Caregivers reported higher levels of functioning in their children in the experimental compared to the control groups.

Research Method

- Sample consisted of 34 youth with sickle cell disease and their primary caregivers and was recruited from a Sickle Cell Disease Program located at a children's hospital.
- For the experimental group, a licensed massage therapist visited the home four times. At the first home visit, the therapist trained at least one parent on how to give a standard massage through instruction, demonstration and written materials. Caregivers were required to give a 20-minute massage between therapist visits, resulting in 30 days of massage.
- At the commencement and conclusion of the study, caregivers completed the Functional Status-II(R) (FS-IIR) and the Center for Epidemiological Studies of Depression Scale (CES-D), and children completed the Children's Depression Inventory (CDI). Weekly anxiety scales consisted of the State-Trait Anxiety Inventory (STAI and STAI-C). Pain was rated twice a day using the FACES.
- For the variables of emergency department visits, hospitalizations and number of days hospitalized, the Health Service Utilization Rates was used, which tracked SCD-related complications for the study participants six months prior and after the data collection period.

For more information, please contact the Center for Biobehavioral Health in The Research Institute at Nationwide Children's Hospital at 614-722-3182 www.NationwideChildrens.org/Research

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