

## NUTRITIONAL KNOWLEDGE, GROWTH AND HEALTH IN CHILDREN WITH SICKLE CELL DISEASE

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**Background:** Growth and nutritional deficits in children with SCD are hypothesized to be related, at least in part, to intense pain episodes and frequent hospitalizations. In the general pediatric literature, parents' understanding of nutrition and adaptive mealtime behaviors have also been found to be related to growth and other health variables; however the relationship between parent nutrition knowledge/ practices and child health outcomes has not been examined in a pediatric SCD sample. The purpose of the current study was to examine the relationship between parents' nutritional knowledge/ feeding practices and growth status (weight-for-age percentile), hospital visits (including emergency room visits), and pain frequency and intensity.

**Methodology:** Children with SCD between ages 7 and 15 and their parents were recruited to participate in a multi-assessment nutritional and psychosocial assessment study. The sample to date consists of 19 children with SCD (58% with HgSS) and their parents.

*Parent nutritional knowledge/ practices* was assessed by the Sickle Cell Nutrition Survey (Williams, George, & Wang, 1997) and included variables such as knowledge of food groups, number of meals child eats, etc. *Child height and weight* were obtained using a Holtain stadiometer and a digital Scaletronix scale. *Hospitalizations and emergency room visits* within the past 12 months were assessed via medical record reviews. Parents and children completed a questionnaire that assessed *pain frequency and intensity*. Correlational analyses were conducted to examine study goals and an exploratory item analysis of the nutrition survey was conducted to highlight potential areas for intervention.

**Results:** Parents' nutritional understanding was not significantly related to child growth status, hospital visits, or pain factors; however, the number of meals eaten per day was significantly positively related to child weight-for-age percentile ( $r = .474, p < .05$ ). Secondary analyses indicated that children with Hemoglobin SS disease reported eating fewer meals per day ( $r = -.398, p < .05$ ) and as having more pain episodes than children with other types of SCD ( $r = -.614, p = .001$ ).

The item analyses revealed that 86% of the parents reported knowing the food groups; however only 64% were able to name three of the four food groups. In addition, a majority of the parents indicated that their children did not follow a special diet, take vitamin or mineral supplements, or drink nutritional supplements/ powders.

**Conclusions:** Preliminary results indicate that child eating and disease severity factors are more proximally related to growth problems than parent nutritional knowledge and feeding behaviors. Thus, interventions should not focus exclusively on educating parents but also on educating and encouraging children to eat well, particularly following pain episodes, illness, or hospitalizations. Results also indicate that children and parents might benefit from education on the importance of eating a balanced diet and on the potential benefits of vitamin and nutritional supplementation.