

ARN Association Rehabilitation Nurses

Research Grants

Abstract Form

In 250-350 words, define the research problem, state the significance of the research, and present the research methodology and plan for analysis. **DO NOT USE A SEPARATE SHEET.**

The Effect of Using the Adaptive Crawler™

On the Development of Infants with Spina Bifida, Age 6-12 Months

Abstract

Research Problem: During the time frame of crawling, infants typically interact independently with their environment and with their parents to perform certain developmental tasks. However, infants with spina bifida are unable to crawl, putting them at a developmental disadvantage. Research shows physical, cognitive, and psychosocial impairments tend to hamper children with spina bifida, and the parent-child relationship is affected.

Significance: Although many devices have been developed to assist in the mobility of children with disabilities, no devices have been developed or tested that facilitate the mobility of an infant with spina bifida during the time frame crawling typically occurs. The objective of this study is to examine the effect of an adaptive crawler™ on the physical, cognitive, and psychosocial development and on the parent-infant relationship for infants with spina bifida aged 6-12 months.

Methodology. A quasi-experimental design with repeated measures will be used to evaluate the effectiveness of the adaptive crawler™ on the physical, cognitive, and psychosocial development and the parent-infant relationship of infants with spina bifida. Eight infants with spina bifida will be entered into the experimental group at age 6 months. Data on their development and on the parent-child relationship will be collected every 2 months until age 12 months. A convenience sample of eight 12-month old infants with spina bifida will serve as the control group; data on the same variables will be collected during one visit. Demographic and clinical data will be collected at the onset of the study.

Analysis. Descriptive statistics will be used to examine demographic and clinical data. Repeated measures ANOVA will be used to evaluate change over time for the developmental measures and for the parent-infant relationship for the experimental group. Multivariate analysis of variance will be used to examine differences between experimental and control groups in the same outcome variables.

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