

Foot and lower leg pain in children and adults with cerebral palsy: A population-based register study on 5,122 individuals

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ABSTRACT

BACKGROUND: Pain is common in individuals with cerebral palsy (CP) and the most reported pain site is the foot/lower leg. We analyzed the prevalence of pain in the foot/lower leg and the associations with age, sex, gross motor function, and clinical findings in individuals with CP.

METHOD: This was a cross-sectional register-study, based on data reported to the Swedish Cerebral Palsy Follow-up Program (CPUP). All participants in CPUP, four-years-of-age or older, were included. Pearson chi-squared tests was used to analyze the prevalence and degree of pain in the foot/lower leg. Multiple logistic regression analyses were used to produce adjusted odds ratios of pain in the foot/lower leg.

RESULTS: In total, 5,122 individuals were included from the CPUP database. Overall, 1,077 (21%) reported pain in the foot/lower leg. The odds ratios (OR:s) of pain were higher in females (OR 1.31, 95% CI 1.13-1.53), individuals who could ambulate (Gross Motor Function Classification system level I (OR 1.84, CI 1.32-2.57) and II (OR 2.01, CI 1.46-2.79) compared to level V), in older individuals (OR 1.02, CI 1.01-1.03), and in individuals with decreased range of motion of the ankle (dorsiflexion 1-10 degrees (OR 1.43, CI 1.13-1.83) and ≤ 0 degrees (OR 1.46, CI 1.10-1.93) compared to ≥ 20 degrees).

CONCLUSIONS: Pain in the foot and lower leg appears to be a significant problem in individuals with CP, in particular in those who walk. As with pain in general in this population, both pain intensity and frequency increase with age. The odds of pain in the

foot and lower leg were increased in individuals with limited dorsiflexion of the ankle.

Given the cross-sectional design causality cannot be inferred and it is unknown if pain causes decreased range of motion of the ankle or if decreased range of motion causes pain. Further research is needed on causal pathways and on prevention.