Background/Objectives: To date, little information is available as to how, and to what extent dystonia and choreoathetosis affect the functional activity, participation and quality of life in children with dyskinetic cerebral palsy (CP). Yet, the primary goal of therapeutic interventions is to enhance the child’s ability to perform activities in the context of daily life, which are closely related with participation and quality of life (QOL). Therefore, knowledge of the impact of secondary dystonia and choreoathetosis on the different levels of the ICF model and QOL is important to guide treatment interventions. The objective of this study was to determine the relationship between dystonia and choreoathetosis and the level of activity, participation and quality of life in children with dyskinetic CP.

Design: cohort study (correlational).

Participants and setting: This study included 54 participants with dyskinetic CP (mean age 14y 6mo, SD 4y 2mo), recruited from five Belgian Flemish special education schools for children with motor disabilities.

Methods: Dystonia and choreoathetosis were measured with the Dyskinesia Impairment Scale (DIS). Activity measures included the Gross Motor Function Measurement (GMFM-88), the Functional Mobility Scale (FMS), the Jebsen-Taylor Test of Hand Function (JTT), and the Abilhand-Kids Questionnaire (ABIL-K). The Life Habits Kids (LIFE-H) was used as a measure for social participation. For quality of life, the Quality of Life Questionnaire for children with CP (CP-QOL) was applied. Spearman’s rank correlation \( r_s \) was used to assess the relationship between both motor disorders and the activity, participation and quality of life measures.

Results: Significant moderate to good correlation coefficients were found between dystonia and the activity scales with \( r_s \) varying between –0.64 and –0.71. Fair correlations coefficients were found with the LIFE-H (\( r_s = –0.42 \)) and the CP-QOL (\( r_s = –0.32 \)). For choreoathetosis, no or only weak relationship was found with the activity, participation and quality of life scales.

Conclusions: This study is the first to examine the relationship between dystonia and choreoathetosis in children with dyskinetic CP and their activity abilities, participation and quality of life. A strong relationship was found between the presence of dystonia and activity scales. Similarly, considerable association was found with participation and quality of life scale, although into a lesser extent. For choreoathetosis, little or no relationship was found. These findings seem to suggest that it might be most crucial to focus on dystonia reducing intervention studies.