

Relationship between Joint Hypermobility and Balance in Patients with Down's Syndrome

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Abstract : Down's syndrome (DS) is a human genetic disorder caused by the presence of all or part of an extra chromosome 21. Many patients with DS have musculoskeletal problems that affect weak muscle tone (hypotonia) and ligament laxity. This leads to excessive joint hypermobility and decreased position sense (proprioception). Lack of proprioception may cause balance problems. The aim of our study was to investigate how does joint hypermobility affect balance in patients with DS. Our study conducted with 13 DS patients age between 18 to 40 years. Demographic data were recorded. Beighton Hypermobility Score (BHS) was used to evaluate joint hypermobility. Balance score of participants was evaluated with Berg Balance Scale (BBS). Mean age of our participants was $29,8 \pm 3,57$ year. Average score of body mass index and BHS were; $33,23 \pm 3,78$ kg/m² and $7,61 \pm 1,04$, respectively. Out of a maximum possible score of 56 on the Berg Balance Scale, scores of participants with DS ranged from 36-51, with a mean of $43 \pm 4,45$. Significant correlation was found between BHS and BBS ($r: -,966$, $p=0.00$). All of our participants have 6/9 or higher grade from BHS. As a conclusion of our study; joint hypermobility may affect balance score in patients with DS. The results suggest that people with DS have worse balance scores which affected by hypermobility. Further studies need larger population for more reliable results.

Keywords : adults, balance, Down's syndrome, joint hypermobility

Conference Title : ICGHOST 2020 : International Conference on Ghost Conference

Conference Location : ghost city, Other

Conference Dates : December 12-13, 2020