

Walking observation scale: a useful tool for early diagnosis of autism

Gianluca Esposito¹, Paola Venuti

Gait disorders in the autistic syndrome have already been acknowledged and widely discussed in many studies (Hallett e al., 1993; Rinehart e al., 2001; Mari e al., 2003). Teitelbaum e al. (1998) have shown that movement analysis is a useful indicator to consider in order to obtain an early diagnosis of autism. The anomalies in walking seem to be the most clear and permanent of all gait alterations that can be found in autistic subjects. Many researchers indeed refer to the autistic way of walking as “parkinsonian mode” and ascribe it to a dysfunction of the dopaminergic system (Damasio e Maurer, 1978; Vilensky e al., 1981). Starting from Teitelbaum’s studies by home-video of autistic subjects, the aim of this research has been to verify through observational tools the difference between autistic and non-autistic children. According to this purpose we have built an observational scale to study the way of walking (WOS: walking Observational Scale). This scale analyses movements through three axis: fluidity, symmetry and activity-passivity. Normal performances in these three levels are reached within 15-18 months.

WOS has been applied to the home-videos of a 40 subjects sample by two observers (agreement by Cohen’s $K=0.815$). The sample was made up of a group (A) of 20 autistic subjects (with a DSM IV diagnosis, and sorted out in two subgroups: A1, subjects of 18-48 months; A2, subjects of 48-84 months) and a matched group (B) made up of non pathological subjects. Inferential data analysis and cluster analysis indicate differences between the A and B groups. The data derived from subgroups A1 and A2 show that performance improves with ages.

Considered data reveal from the analysis of the sample that there are differences between group A (autistic subject) and B (matched group). These results are in agreement with the recent evidence in the diagnostic field, which acknowledged the importance of movement as an early indicator for the diagnosis of autism. These results demonstrate that the WOS can be useful for the movement analysis and if they are included in a wider diagnostic protocol, they may represent a useful tool for early diagnosis of autism.

¹*Discof, Università di Trento, Via Matteo del Ben, 5 – 338068 Rovereto (Tn). Tel: 0464-483578 – Fax: 0464-483554*