

**Epidemiology/Genetics Abstracts**

**Title:** INTELLECTUAL PERFORMANCE IN MYELOMENINGOCELE: IMPACT OF BRAZILIAN MEDICAL AND SOCIAL-DEMOGRAPHIC FACTORS

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**Background:** Scant research into the impact of myelomeningocele on cognitive functions in Brazil has led us to investigate the intellectual performance of individuals with myelomeningocele, compare these performance with a control group, and to explore the correlation, as well as the impact of social-demographic and medical variables.

**Method:** One hundred-two subjects, aged 6-16 years old, with myelomeningocele participated in the study. The control group was comprised of 85 participants of the WISC-III Brazilian standardization who were matched by age, school type and grade with a group of 85 participants of the myelomeningocele group. We used the WISC-III (Brazilian adaptation), a socioeconomic evaluation questionnaire, interviews, CT scans of the brain and criteria for assessing the lesion motor level and gait classification. Statistical analysis was performed using hypothesis tests and multiple linear regression ( $p < 0.05$ ).

**Results:** The myelomeningocele group presented a total IQ (TIQ) of 85.3, Verbal IQ (VIQ) of 94.0, Performance IQ (PIQ) 77.8, Verbal Comprehension (VC) 95.2, Resistance to Distraction (RD) 87.8, Perceptual Organization (PO) 77.9 and Processing Velocity (PV) 84.3.

In the comparison study, the control group presented better intellectual performance except on VIQ and VC.

Intellectual performance varied according to age, socio-economic level, type of school, severity of hydrocephaly and gait function. Having Chiari II malformation impacted all the scores, except RD. According to the multiple linear regression model, age, Chiari II and poor gait function contributed to worse intellectual performance. Students in public schools had lower scores. A higher socio-economic level yielded higher intellectual performance scores.

**Conclusion:** Individuals diagnosed with myelomeningocele have visual-constructive and visual-perceptive impairments; these disorders are also evident when compared to the control group. An increase in age did indicate worse intellectual performance. The Chiari II malformation, a low socioeconomic level, being in public schools, and having poor gait function predicted poor intellectual performance in this study.