

Oral presentation

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Living with spina bifida: neurological and neuropsychological functioning in adults with severely impaired psychosocial adaptation

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Background

Spina Bifida (SB) is a birth defect caused by incomplete neural tube development, affecting physical, cognitive, and adaptive function. Findings from our previous study indicated that the visual-spatial and executive functions were especially important for psychosocial adaptation in young males. The aim of this study was to describe and examine a group of patients with severely impaired psychosocial adaptation, and to find out if there were gender specific differences with regard to clinical history, neurological and neuropsychological functioning.

Materials and methods

12 adults (6 males, 6 females; age range 24 to 41) with SB were recruited from TRS National Resource Centre for Rare Disorders. Inclusion criteria were (1) interruptions in the course of education, (2) unemployment, and (3) absence of social relations. The subjects underwent a clinical history, a neurological investigation, and a neuropsychological assessment consisting of Wechsler Abbreviated Scale of Intelligence (WASI), Grooved Pegboard, Stroop Test from the Delis-Kaplan Executive Functioning System (D-KEFS), letter-number sequencing from Wechsler Adult Intelligence Scale III (WAIS-III), and the Trail making Test. Additionally, the Behaviour Rating Inventory of Executive Function (BRIEF-A), and the Symptom Checklist 90-R (SCL-90) were used.

Results

Most of the patients were severely disabled by paralysis in the lower limbs, multiple shunt revisions, Arnold Chiari malformation, tethered cord, orthopedic surgeries, and reduced sexual function. The neuropsychological results showed deficits in the executive functions, especially working memory, mental flexibility, initiative, and organizing. Visual-spatial function and visual motor coordination were also affected. The neuropsychological findings showed similar results for both males and females. SCL-90 revealed some symptoms of psychopathology. These were more pronounced for the females. The males were less capable to structure daily living.

Conclusion

All the patients had major neurological and neuropsychological deficits. The neuropsychological findings disclosed that the executive and visual-spatial functions were most impaired for both males and females. Interestingly, even though the males reported less psychopathological symptoms, they had more problems with structuring daily living. We emphasize that findings from both neuropsychological and psychological assessment are incorporated in the follow up of SB patients in order to improve psychosocial adaptation.