

P01-263

MEMORY IMPAIRMENTS AND ITS INTERACTION WITH ENVIRONMENTAL FACTORS
IN CHILDREN AGED 6 TO 8 YEARS LIVING IN GHARB PLAIN (N-W OF MOROCCO)

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Introduction: The "Gharb" plain (area of our study) localized in the North-West of Morocco is one of the most important agricultural and industrial regions of the Kingdom. Unfortunately, it suffered from the increase of different polluting human activities which expose the population, especially children, to serious neurobehavioral problems.

Objective and aims: Evaluation of the short term memory and working memory in urban, periurban and rural schooled children (aged 6 to 8 years) living in Gharb plain and studying the relationship between the performance in this test and the quality of environment.

Methods: Memory Sub-test of WISC III (Wechsler Intelligence Scale for Children) and questionnaire about some environmental conditions.

Results: The obtained results had shown that 3,64% periurban children and 3,03% rural children suffer from short memory impairments and no impairments in urban children were registered. For working memory, 21,05%, 47,06% and 66,67% of impairments were found in urban, periurban and rural children respectively. Moreover, a significant correlations between the performances of short term memory and building materials ($p < 0.05$), source of pollution near the school ($p < 0.05$), and consumption of well water ($p < 0.001$) were registered.

Conclusions: The memory impairments recorded in these children appeared in connection with environmental factors, but a deeper investigation is needed for studying all these factors, in addition to others (psychological, socio-economical, and nutritional) ones.