

**Abderrahmane Mira University, Béjaia**  
Faculty of Humanities and Social Sciences  
LASSU Laboratory "Society, Health, Urbanity"  
In collaboration with the Mental Health and Neuroscience Laboratory



## **NATIONAL SYMPOSIUM**

**(In-person)**

### **Non-pharmacological therapies and the reduction of attention deficit hyperactivity disorder (ADHD)"**

**Sunday, October 27, 2024**

**Aboudaou Campus"**

During their mental and physical development, school-aged children are confronted with certain pathologies that can hinder their brain acquisition, particularly cognitive function disorders, which are frequently observed in neuro-pediatric disorders, neuro developmental disorders, and specific cognitive function disorders, commonly referred to as DYS disorders (INSERM Report, 2009, 2014, and 2016, DSM-5; ICD-10).

These specific cognitive disorders affect the overall development of the child, as well as their family, social, and school life. Given their prevalence, assistance provided to affected children represents a public health issue and a major scientific challenge in the years to come (Roy et al, 2017; Seguin, 2017). Thus, attention deficit hyperactivity disorder (ADHD) is currently one of the main focuses of study in psychomotricity. Some researchers like Lecendreux, Konofal & Faraone (2011) have assessed the prevalence of ADHD in a French school-aged population to be between 3.5 and 5.6%. According to these researchers, young people with ADHD are more likely to experience learning difficulties, repeat a year during their schooling, and have lower academic performance compared to the legal level of teaching.

It becomes necessary to pay great attention to this pathology, generally not understood by the majority of parents, as well as in the field of public health, as a clinical and societal issue to be addressed; especially since ADHD is a neuro developmental disorder that manifests before the age of 12 in a symptomatic triad composed of *inattention, impulsivity, and hyperactivity*. The origin of this disorder is multifaceted, as its manifestation remains subject to a significant number of biological, environmental, or relational risk factors (Marquet-Doléac et al., 2017).

Therefore, the various types of treatment for this pathology constitute a real challenge for clinicians and professionals in practical settings. In addition to pharmacological treatment, an increasing number of publications indicate the potential role of physical exercise in the treatment of ADHD in children (Kamp & Sperlich, 2014). In this regard, Mehren et al. (2020), researchers at the Department of Psychology at Carl von Ossietzky University Oldenburg in Germany, indicate that the potential role of physical exercise may be a treatment for attention deficit hyperactivity disorder (ADHD). The suggested effects include the reduction of major ADHD symptoms as well as the improvement of executive functions. In the present study, they provide a brief overview of the neurophysiological mechanisms assumed to underlie the beneficial effects of exercise. Additionally, they review current evidence from experimental studies regarding both acute exercise and long-term interventions in the treatment of ADHD.

While the positive effects observed after acute aerobic exercise are promising, very few well-designed long-term intervention studies have yet been conducted. Additionally, although the effects of exercise have not yet been studied in borderline personality disorder (BPD), results observed in healthy subjects (not affected by ADHD) compared to clinical populations (affected by ADHD). Furthermore, very beneficial effects appeared after acute exercise on ADHD symptomatology. These results remain until now the most vigorously observed after moderate-intensity aerobic exercise.

On their part, Chang et al. (2012), Chinese researchers, were able to define, in their study, the effect of acute aerobic exercise on the executive function of children with attention deficit hyperactivity disorder. The study focused on 40 ADHD children in Taiwan. The average age of the children was 10.54 (8-13 years). These children were randomly divided into groups, (exercise group 1 (20) and control group 2 (20)). The experimental (exercise) group performed moderate-intensity aerobic exercise for 30 minutes. Meanwhile, the control group watched a 30-

minute video related to running exercises. Neuropsychological tasks, the Stroop test, and the Wisconsin Card Sorting Test (WCST) were evaluated before and after each treatment.

The results of this survey indicated that acute exercise facilitated performance in the Stroop test. The effect was found in the exercise group ( $p, .0001$ ). As for the effect of exercise on the WCST, results revealed that WCST performances in the post-test were improved in the exercise group ( $p, 0.01$ ) compared to pre-test performance. While no difference was found between post-tests and pre-tests in the control group.

These experiments prompt us to consider the issue of this pathology in ADHD children in Algerian society, while proposing different approaches that will be discussed in this colloquium. The scientific contribution of researchers and specialists around this pathology will be made in a multidisciplinary context that would involve placing children with ADHD at the center of debates to understand how they will be treated through behavioral therapy?

Moreover, is it possible to associate behavioral treatment with stimulant medications?  
Are medications the only means to reduce symptoms in school-aged ADHD children?  
Can physical activity replace pharmacological treatment in ADHD children?  
Can combined therapy (medication-physical activity) cure young children with ADHD?  
Is behavioral therapy sufficient for treating preschool-aged ADHD children?

To answer these questions, we have proposed seven axes around which the proposals of the speakers will be structured.

### **The axes of the colloquium are as follows:**

**Axe 1: Behavioral Approach:** What are the attitudes and behaviors of children with ADHD within the family, at school, and in the social environment?

**Axe 2: Cognitive Approach:** What is the executive function of a child with ADHD and its treatment through video games, digital tools (microcomputers, tablets, etc.)?

**Axe 3: Physical Activity Approach:** What is the role of physical activity with its variations, aerobic activities: outdoor games, cognitive activities through group games?

**Axe 4:** Presentation, prevalence, causes, and associated disorders of ADHD.

**Axe 5:** Evaluation of the influence of physical exercise on the cognitive and emotional abilities of children with ADHD, as well as on their psychological well-being.

**Axe 6:** Analysis of behavioral interventions aimed at strengthening socio-emotional skills and improving behavior management in children with ADHD, both at home and at school.

**Axe 7:** Exploration of the impact of psychosocial factors, such as family support and social interactions on the adaptation of children with ADHD, as well as the adaptation strategies they deploy.

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### Participation Guidelines:

Communication proposals should be sent to the following email address:

[colloque.tdah2024@gmail.com](mailto:colloque.tdah2024@gmail.com)

Contributions must include an abstract of the communication in French, English, or Arabic, which does not exceed 2500 characters (including spaces and notes) and specifies the axis in which the speaker wishes to participate.

Writing standards: For languages (Arabic, French, and English): font "Times New Roman" size 12. For Arabic language: font "Simplified Arabic" size 14.

### Important Dates:

**Call for Papers Launch Date: 03/07/2024**

**Abstract Submission Deadline: 26/09/2024**

**Response Date from the Scientific Committee: 03/10/2024**

**Deadline for receipt of the full text of the communication: 10/10/2024**

**Colloquium Date: 27/10/2024**

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