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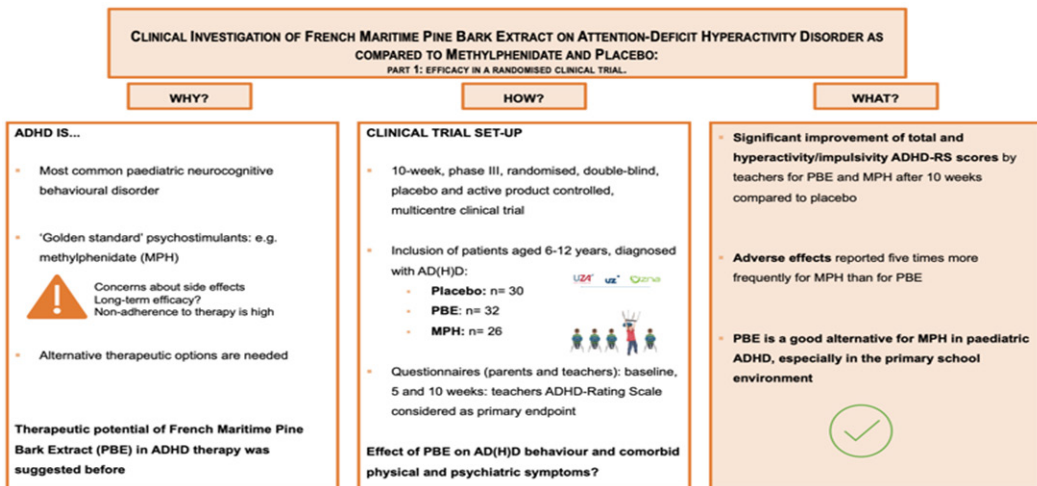
Clinical investigation of French Maritime Pine Bark Extract on Attention-Deficit Hyperactivity Disorder (ADHD) as compared to Methylphenidate (MPH) and Placebo: Efficacy in a randomised clinical trial

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Objectives: To determine the effect of French Maritime Pine Bark Extract (PBE) on Attention-Deficit Hyperactivity Disorder (ADHD) behaviour and co-morbid physical/psychiatric symptoms, compared to Placebo and the medicine Methylphenidate (MPH) and to assess its tolerability. Behaviour (measured by the ADHD-Rating Scale (ADHD-RS) and Social-Emotional Questionnaire (SEQ) and physical complaints were evaluated in weeks 5 and 10.

Results: Eighty-eight paediatric ADHD patients (70% male, mean age 10.1 years) were randomised to Placebo (n=30), PBE (n=32) or MPH (n=26). Teacher ratings, considered the primary outcome of our research, reported significant improvement of total and Hyperactivity/Impulsivity ADHD-RS scores by PBE and MPH after 10 weeks compared to placebo. MPH also improved inattention. SEQ ratings support ADHD-RS results. Adverse effects were reported five times more frequently for MPH than for PBE.

Conclusions: In paediatric ADHD and especially in the school environment, PBE was proven to be a good alternative for MPH for those willing to wait a few weeks for effects, a fortiori when taking into account its almost complete lack of side effects as opposed to MPH. Results of this study strengthen the evidence underlying ‘natural’ treatment options, which is highly desired by medical staff, patients and parents.



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Recent Publications

1. Weyns, A.-S.; Verlaet, A.A.J.; Breynaert, A.; Naessens, T.; Fransen, E.; Verhelst, H.; West, D. van; Ingelghem, I. van; Jonckheere, A.I.; Beysen, D.; *et al.* Clinical Investigation of French Maritime Pine Bark Extract on Attention-Deficit Hyperactivity Disorder as Compared to Methylphenidate and Placebo: Part 1: Efficacy in a Randomised Trial. *J Funct Foods* 2022, 97, 105246.
2. Weyns, A.-S.; Verlaet, A.A.J.; Herreweghe, M. van; Breynaert, A.; Fransen, E.; Meester, I. de; Logie, E.; Vanden, W.; Verhelst, H.; West, D. van; *et al.* Clinical Investigation of French Maritime Pine Bark Extract on Attention-Deficit Hyperactivity Disorder as Compared to Methylphenidate and Placebo: Part 2: Oxidative Stress and Immunological Modulation. *J Funct Foods* 2022, 97, 105247.
3. Dvoráková, M.; Sivonová, M.; Trebatická, J.; Skodáček, I.; Waczuliková, I.; Muchová, J.; Duracková, Z. The Effect of Polyphenolic Extract from Pine Bark, Pycnogenol on the Level of Glutathione in Children Suffering from Attention Deficit Hyperactivity Disorder (ADHD). *Redox Rep* 2006, 11, 163–172.
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5. D'Andrea, G. Pycnogenol: A Blend of Procyanidins with Multifaceted Therapeutic Applications? *Fitoterapia* 2010, 81, 724–736.

Biography

Anne-Sophie Weyns is a PhD student currently performing her research at the Natural Products and Food Analysis (NatuRA) laboratory at the University of Antwerp. During her PhD, she collaborated with colleagues from her lab, Child Neurologists/Psychiatrists from the University Hospitals of Antwerp and Ghent, and the Hospital Network Antwerp to conduct a Phase III, Randomized, Double-blind, Active-controlled Clinical Trial Investigating the Clinical Efficacy of a Polyphenol-rich Extract Compared to Standard Therapy. Her expertise lies in the Investigation of Polyphenols and their Beneficial Effects on Human Health, particularly in the context of Neurodevelopmental Disorders.

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