

EEG in Children's Hyperactivity Disorders

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Introduction

→ Electroencephalogram (EEG) research conducted on children with hyperactivity disorders overcomes generic medicine options by utilizing EEG scans and databases for tailored treatment plans. This non-invasive technique has explored numerous factors, providing valuable insights on ADHD.

Objectives

→ To Explore EEG Scans as a Diagnostic Tool for Hyperactivity Disorders in Children

→ To determine the social implications of ADHD and the limitations of EEG

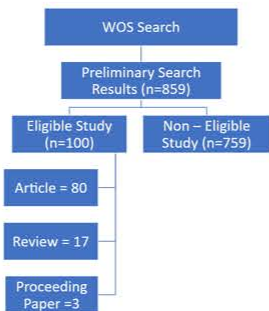


Methods

→ By employing a well-informed, bibliometric strategy approach, 849 studies were comprehensively sourced across all fields from the "Web of Science" database using keywords "EEG research in Children Hyperactive Disorder." Subsequently, articles, reviews, and proceeding papers were filtered using the "Most-Cited" category. Utilizing Excel, findings were scrutinized down to 100 most-relevant studies, emphasizing articles, journal topics, and senior authors exhibiting papers on the topic.

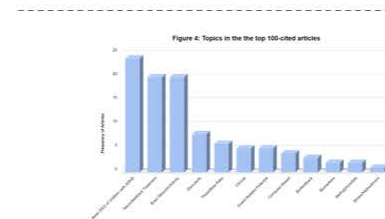
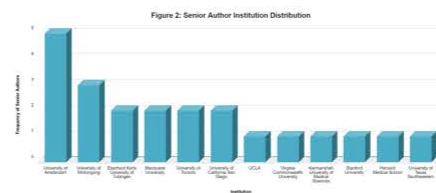
Mapping Analysis

→ Literature search process outlining the number of studies that were identified, included, and excluded at each stage.



Results

→ We analyzed 859 results, narrowing to 80 articles, 17 reviews, and 3 proceeding papers. Surprisingly, articles outnumbered proceeding papers, as they generally represent research outcomes. These results summarize the top 100 most-cited articles on "EEG of hyperactivity disorder in children." Figure 4 highlights 24 articles focused on "Basic EEG of children with ADHD," while only one article discusses "stress/maltreatment." The journal "ADHD-Attention Deficit and Hyperactivity Disorders" appears frequently (18 instances). In Figure 2, the University of Amsterdam is the most frequent senior author institution (5 instances). These findings solely focus on ADHD studies in children, excluding broader public health aspects.



Discussion

→ Through evaluation, 24% of the most-cited articles regarding children's hyperactivity established a baseline EEG for ADHD. Most research holistically examines current findings and concisely presents it for public interest. However, this research has a condensed overview, potentially overlooking relevant keywords and focusing on senior authors with multiple papers. This may omit articles covering diverse technologies and recent smaller-scale studies by emerging researchers.

Conclusion

Our bibliometric analysis concludes that:
→ EEG's non-invasive, efficient methods accurately identify juvenile ADHD by detecting hyperactivity-associated brainwave patterns.
→ Further research on the socio-environmental causes of ADHD is needed, which will enable:
1. Earlier diagnosis and treatment
2. Better monitoring of concurrent neurological conditions.

References

1. Web of Science Database
2. R-Programming Bibliometric Analysis
3. Yale News (First Brain Image)