



Mini Synoptic Review of Psychometric Tools that Evaluate Attention Deficit Hyperactivity Disorder (ADHD)

Dr. Mitosis Konstantinos^{a*}, Msc. Delihourmouzi Marianthi^b, Msc. Baiou Aikaterini^c

^a*Social Worker SDEY 1st Elementary school of Eleftheroupoli, IonosDragoumi 5, EleutheroupoliKavalas, 64100, Greece*

^b*Kindergarten teacher of special education, KokkinoxomaKavalas, 64100, Greece*

^c*Teacher of special education, IonosDragoumi 5, EleutheroupoliKavalas, 64100, Greece*

DOI: <https://doi.org/10.55248/gengpi.2023.4.4.34956>

ABSTRACT

ADHD constitutes a complex disorder and the behavior patterns manifested by the individual usually develop in childhood whereby the first diagnosis is in the context of inclusive education. This behavioral pattern evolves until adolescence, whereas their non-effective treatment/handling can follow the child to the rest of their adult life. Also, the global mean number of children diagnosed with ADHD has been estimated at approximately 5.6%, that is to say, one in every twenty children. Be that as it may, ADHD diagnosis has been used in clinical practice only in the last 40 years. Hence, the right diagnosis using psychometric tools at the right time is deemed essential in the treatment of the Disorder. The purpose of this study is to provide a mini synoptic review of the psychometric tools used for the treatment of ADHD in children and adolescents, according to the specifications of DSM - IV. In order to dedicate the psychometric tools a literature review was conducted. During the research 5 rating scales were detected, 3 of which have been translated and considered in Greece whereas the rest of them not. The findings of the research can be a basis for specialists interested in dealing with the diagnostic process of ADHD, as well as the researchers willing to take a step further into the research of diagnostic tools.

Keywords: ADHD, psychometric tools, inclusive education

1. Introduction

An education system in order to be equal and fair, should support all its students in any way regardless of their weaknesses (Sevak, 2022). A key goal of inclusive education which has dominated in recent decades is to support all students and their families in such a way that their academic performance is not hindered (Singh &Patlia, 2022). Children with ADHD portray several fluctuations in their behavior depending on the activity they are involved in and whether this activity demands developed cognitive functions. The display of deficits in the child's attention span in an activity and simultaneously the existence of aimless movements hamper the child from perceiving the sensory stimuli and modulating them into socio-cognitive structures. Children with ADHD portray several fluctuations in their behavior depending on the activity they are involved in and whether this activity demands developed cognitive functions. The display of deficits in the child's attention span in an activity and simultaneously the existence of aimless movements hamper the child from perceiving the sensory stimuli and modulating them into socio-cognitive structures (Ortega et al., 2020).

Patricia Quinn argues that, ADHD "may constitute a dysfunction at neurotransmitter level in the brain stem, which in turn influences the function of incoming and outgoing stimuli". This has as a consequence the dysfunction of the frontal lobe resulting in functions such as perception, disposition, stimulation, attention not being performed at a satisfactory degree. The epidemiological data present an upward trend in the appearance of this phenomenon. The disorder under discussion is prevalent in boys who outnumber girls (Quinn PO, Madhoo M, 2014).

According to the Diagnostic and Statistical Manual of Mental Disorders – 5 (2013), three types of attention deficit disorder predominate, these are "Attention-Deficit/Hyperactivity Disorder, combined type, Attention-Deficit/Hyperactivity Disorder, with Predominance of the Inattentive Type, and Attention-Deficit/Hyperactivity Disorder, with Predominantly the Hyperactive-Impulsive Type".

2. Psychometric tools used in ADHD psychometric evaluation

2.1 Greek ADHD Rating scale

ADHD Rating scale-IV was developed by Dupaul, Power, Anastopoulos& Reid (1988) and has been translated and weighted in Greek by Kalantzi Azizi, A., Aggeli., &Efstathiou, (2012). The scale can be administered to ages in the 5-18 bracket. The context of the tool comprises two scales, one for parents and one for teachers, and includes 18 questions on the Likert scale. The questions examine the child's behavior at home and at school during the

last 6 months and are answered by the parents and the teachers. The scale under discussion comprises two subscales examining “attention deficit” and “hyperactivity – impulsiveness” respectively.

2.2 Conners 3 Rating Scales

Conners 3 rating scale constitutes one of the best – known ADHD rating scales, which includes issues of executive functions and social behavior. The test addresses ages in the 6-18 bracket and can be filled in by teachers, parents and the individual under evaluation alike.

Conners Teachers Rating Scale, which evaluates student behavior, comprises 59 questions and takes about 15 to 20 minutes to be completed. The questions examine short attention span, learning difficulty, inter-and intra-personal behaviour problems as well as reactionary behavior. The scale addressing parents (Conners Parent Rating Scale-Revised), includes 48 questions concerning behavior problems, learning problems, psychosomatic problems, impulsiveness – hyperactivity and stress (Conners, 2008).

2.3 Conners Comprehensive Behavior Rating Scales (Conners CBRS)

Conners CBRS was developed alongside Conners 3 and constitutes a broadband evaluation tool. It includes a scale for natural symptoms with common side-effects of psycho-active drugs. The issues relating to ADHD are not covered at the same depth as by Conners 3. Coners CBRS assesses 12 scales : behavior disorder, adversative provocative disorder, major depressive incident, manic incident, generalized stress disorder, social phobia, ideo-obsessive compulsive disorder, autistic phasm. The scale rates ages 6 to 18 and can be completed by students, parents and teachers. The gradation of the scale is from 0 to 3, with 3 indicating high Frequency/gravity. Conners CBRS is a complete manual recommended for use in the research of several diagnostic possibilities. The validity in the analyses proved the accuracy of the test. Reliability analyses showed that, Conners CBRS evaluations have high internal consistency levels, with Cronbach’s alpha fluctuating between 0.69 and 0.97 (Conners et al., 2011).

2.4 Achenbach Empirically Based Evaluation System (ΣAEBA)

ΣAEBA was developed by Achenbach and evaluates adaptive Functionality abilities and behavior problems. The data are compiled by parents, teachers and adolescents and its completion lasts up to 20 minutes. The age bracket it addresses is between 6 and 8.

ΣAEBA comprises three questionnaires, the questionnaire for parents for ages 6-18 (Child Behavior Checklist – CBCL), comprising 20 questions on social ability/skill and 118 problem behavior. In the parent’s questionnaire 9 psycho-pathology scales are examined – stress, sorrow, obsessive compulsive disorder, social isolation, hyperactivity, aggressiveness. The adolescents’ questionnaire (Youth Self – Report – YSR) concerns ages 11-18 and can be completed by adolescents reporting on their functionality themselves. It comprises two parts, the first with questions on social adaptation and the second with 112 questions on psychopathology. The questionnaire for teachers (Teacher’s Report Form – TRF) is similar to that for parents. Also, scales are explored which include school performance, hard work, proper behavior and education ability (Achenbach & Rescorla, 2003).

2.5 Brown Attention Deficit Disorder Scales

Attention deficit disorder constitutes a complicated executive Function of ADHD. Brown’s ADD Scales can be administered as rating scales or as clinical interviews at pre-school age (3-7), school age (8-12), adolescence (12-18) and adulthood (≥ 18). The versions regarding pre-school and school age groups can be rated by parents and teachers. The data collected from the scale under discussion, for a complete evaluation, is the clinical history, co morbidity and a project-sheet for the combination of brown ADD Scales data with other trials data.

The forms evaluate five executive functions: organization, focus – maintenance, alertness regulation, frustration management and work memory utilization. At preschool age auto regulation and monitoring are also rated. Every Brown ADD scale comprises 40-50 items and rates (from 0 to 41) their frequency of appearance the previous week. These scales focus on ADHD executive functions, but contain little information regarding hyperactivity and impulsiveness (Davenport & Davis, 2011).

3. Conclusion

In the present brief synoptic bibliographical review 5 psychometric tools were recognized, evaluating ADHD in children and adolescents according to the DSM – 5 (2013), in the contexts of inclusive education for ensuring appropriate support. The psychometric tools include questions addressing parents, teachers and some can be answered by the individuals the tests are administered to. One of the scales mentioned, besides ADHD, examines co morbidity (Conners CBRS) with other disorders with very good results.

Psychometric tools are useful for the timely and valid diagnosis of ADHD providing complete information for the appropriate intervention to be applied. The specialist administering the psychometric tools must be well-informed and - trained, so as to administer the right scale for each case or even combination of scales in order to form a diagnosis. The reliability and validity of the tools administered also lead to the diagnosis.

References

- Achenbach, T. M., & Rescorla, L. A. (2003). Manual for the SAEVA questionnaires and school-age profiles. (A. Roussou, Trans. - Edit.). Athens: Greek Letters.
- [American Psychiatric Association \(2013\). Diagnostic And Statistical Manual Of Mental Disorders, Fifth Edition, USA.](#)
- Conners, C.K. (1997). Conners rating scales-revised technical manual. Toronto, Ontario, Canada: Multi-Health Systems.
- Conners, C.K., Pitkanen, J., & Rzepa, S.R. (2011). Conners Comprehensive Behavior Rating Scale. In: Kreutzer, J.S., DeLuca, J., & Caplan, B. (eds) Encyclopedia of Clinical Neuropsychology, New York, NY, Springer.
- Davenport, L.T. & Davis, A.S. (2011). Brown Attention-Deficit Disorder Scales. In: Goldstein, S., Naglieri, J.A. (eds) Encyclopedia of Child Behavior and Development, Boston, MA, Springer.
- Du Paul, G.J., Power, T.J., Anastopoulos, A.D., & Reid, R. (1998). ADHD Rating Scale—IV: Checklists, norms, and clinical interpretation. New York. The Guilford Press.
- Kalantzi Azizi, A., Aggeli, K., & Efstathiou, G. (2012). Greek ADHD Rating scale –IV, Athens, IANOS.
- Ortega, R., López, V., Carrasco, X., Escobar, M., García, A., Parra, M. & Aboitiz, F. (2020). Neurocognitive mechanisms underlying working memory encoding and retrieval in Attention- Deficit/Hyperactivity Disorder. Scientific Reports, nature research,10,7771.
- Quinn, P.O, & Madhoo, M. (2014). A review of attention-deficit/hyperactivity disorder in women and girls: uncovering this hidden diagnosis. Prim Care Companion CNS Disord,3,16.
- Sevak, R. (2022). Effectiveness of Selected Interventions on Concentration among the Children with Attention Deficit. International Journal of Research Publication and Reviews,3 (2), pp 590-592.
- Singh, S. & Patlia, M. (2022). Efficacy of Concentration Enhancement Therapy among Children with ADHD. International Journal of Research Publication and Reviews, 3(11), pp 3189-3190.