

ETIOLOGÍA DEL TRASTORNO DE HIPERACTIVIDAD: UNA REVISIÓN BIBLIOGRÁFICA DEL PERÍODO 1999-2002

AUTOR: Jose Angel Lopez
<http://www.cop.es/colegiados/T-00921/jal.htm>

José Ángel López

Psicólogo. Universidad de La Laguna.
jalopez@correo.cop.es

María Teresa Santamaría

Psicóloga. Servicio Canario de Salud (Unidad de Salud Mental).
ms@correo.cop.es

INTRODUCCIÓN.

Nos parece importante recoger el significado del término *etiología* asignado tanto en el *Diccionario de la Lengua Española* de la Real Academia Española como en el *Diccionario Terminológico de Ciencias Médicas*: “parte de la medicina que tiene por objeto el estudio de las causas de las enfermedades”. En esta definición se desliza un determinado posicionamiento que pudiera condicionar nuestro acercamiento al trastorno.

Propósito:

Este artículo lo realizamos en el marco del I Encuentro Virtual sobre el Trastorno por Hiperactividad, a desarrollar en la lista de correo de RedIris "Hiperactividad, Atención, Impulsividad" HIP-AT-IM @ LISTSERV.REDIRIS.ES.

Nuestro propósito es ofrecer al foro el resultado de una revisión bibliográfica de las publicaciones científicas de los últimos tres años (plazo comprendido entre 2002 y 1999) que traten el tema de la etiología del Trastorno. Este trabajo lo consideramos como un punto de partida para otros de mayor profundización, que siempre lo podrán perfeccionar.

Inicialmente nos propusimos revisar los últimos 10 años, pero razones de tiempo y de intención de centrar la revisión en una época de avance de la neurología y la genética, nos llevaron a reducir el plazo a los tres últimos años.

METODOLOGÍA:

Realizamos una búsqueda de referencias bibliográficas en la base de datos PSYCINFO, así como en MEDLINE y PUBMED, analizando sus abstracts.

RESULTADOS Y DISCUSIÓN:

Obtuvimos inicialmente 260 referencias en la base PSYCINFO correspondientes al periodo 1992-2002, quedando reducidas a 126 referencias al centrarnos en el periodo 1999-2002. La comparación entre el número de años transcurridos en cada periodo y el número de publicaciones respectivas nos confirma el hecho del aumento imparable de la cantidad de investigaciones que se viene produciendo en proporción geométrica en muchos campos del saber, incluyendo el que aquí nos interesa; esto es, en los últimos tres años se ha producido la mitad de los artículos de todos los últimos diez años.

Otros estudios anteriores al nuestro han hecho revisiones bibliográficas, aunque en periodos distintos

y sin especificar las fuentes de tales referencias (Sandoval et al, 1999).

Algunas publicaciones dejan constancia de la confusión y contradicción existente en el abordaje de la etiología del Trastorno (Reeve et al, 2001; Hinshaw et al, 2001; Bain, 2001; Burt et al, 2001), indicando que algunas de ellas incluso caen dentro de la categoría de conjeturas (Johnsen, 2001).

La existencia de diferentes aportaciones y la contraposición entre algunas de ellas hacen resaltar la conclusión de la importancia y de la urgencia de precisar la definición del Trastorno:

- es posible que estemos hablando de diferentes “Trastornos de Hiperactividad”, que se correspondan a diferentes etiologías, como hipótesis a contrastar.
- muchas de estas investigaciones hacen hincapié en la frecuente comorbilidad de este Trastorno con otros (obsesivo compulsivo, negativista desafiantes, de conducta, manía, tendencia a fumar, síndrome de Tourette) (Tercyak et al, 2002; Budman et al, 2000; Hill et al, 2000; Zohar et al, 1999).
- el propio trastorno es definido como “psiquiátrico”, como “neurológico” o como “psiconeurológico” dependiendo de la especialidad que lo estudia.
- la ética y la deontología científicas en el trato con seres humanos dificulta seriamente la aplicación de una metodología estrictamente experimental que nos permita hablar con rigor de causalidades, y obliga a las investigaciones a usar métodos correlacionales, cuyas características y limitaciones debiéramos tener bien presentes a la hora de formular conclusiones.
- tamaño pequeño de las muestras, falta de grupos de control, (Muglia et al, 2002; Reeve et al, 2001; Weller et al, 1999; Weller et al, 1999)

Las publicaciones revisadas se posicionan respecto a la posible etiología en un planteamiento único y algunas veces excluyente, ya sea biológico o psicológico / psicosocial, o en un planteamiento mixto, integrador de ambos modelos.

Esta “Torre de Babel” acerca del Trastorno es tan evidente, y quizás tan generadora de confusión más que de construcción, que algunas publicaciones se centran específicamente en el estudio del fenómeno de dicha “Torre de Babel” (Garrett, 2000).

Las etiologías abordadas en los estudios incluyen las relacionadas con los siguientes aspectos:

*** genéticos:**

no relación entre determinados genes y el TDAH en una muestra (Barr et al, 2001)
gen receptor de la dopamina D3 (Muglia et al, 2002; Denney et al, 2001)
causas genéticas directas, o mediante interacción con el ambiente (Nadder et al, 2002)
diferencias entre la severidad del TDAH (Thapar et al, 2001; Willcutt et al, 2000)
gen de la dopamina D2 (Sullivan et al, 2001)
y su interacción con el sexo (Rhee, 2000)
gen receptor de la dopamina D4 (Sunohara et al, 2000; Biederman et al, 2000; Faraone et al, 1999;
Thapar et al, 1999)
en relación con el síndrome de Tourette (Sheppard et al, 1999; Pauls et al, 1999)
Soo et al (1999), con diferente importancia del ambiente según sexo
Waldman et al, 2001; Todd, 2001; Asherson et al, 2000; Faraone, 2000; Kuntsi et al, 2000; Bradshaw et al, 2000; Biederman et al, 1999; Spencer, 2002; Todd et al, 2001; Rapoport et al, 2000

*** Disfunciones del Sistema Nervioso Central:**

desequilibrio entre los sistemas motores cerebrales lateral y medial (Archibald et al, 2002)
receptores adrenérgicos Alfa1C y Alfa2C (Barr et al, 2001)

hipoactivación cortical y falta de maduración del SNC (Clarke et al, 2002)
disfunción del lóbulo frontal (Reeve et al, 2001)
rutas frontales-subcorticales (Spencer, 2002; Biederman et al, 2000)

modelo de lateralización cerebral (Ponseti et al, 2001)
funciones hipocatecolamina en la región subcortical y en la cortical prefrontal en cuanto síndromes secundarios de déficit energético (Todd et al, 2001)
sistema serotoninérgico (Shalev et al, 2001)
implicación de varias zonas cerebrales (Bradley et al, 2001)
núcleo caudado y su relación con la actividad física (Wendt, 2000)
hipoactividad de las zonas cerebrales prefrontal, estriada y límbica (Rapport et al, 2000)
Kalbfleisch, 2001; Kolar et al, 2000

*** ambientales:**

factores culturales, ambientales y parentales (Ravenel et al, 2002)
Faraone et al, 2000

*** familiares:**

Thomas, 2000
exposición prenatal a cigarrillos y alcohol (Hill et al, 2000)
factores perinatales (Zohar et al, 1999)

*** infecciosos:**

de los ganglios basales (Yaryura et al, 2001)

*** de corte psicoanalítico:**

problemática del funcionamiento del ego (Gilmore, 2000)
disociación de partes del self (Low, 1999)

*** Autores que tienen en cuenta tanto el modelo biológico como el psicológico:**

Gerjets et al, 2002; Amador et al, 2001; Hinshaw et al, 2001; Dinter, 2001; Bain, 2001; Solanto, 2001;
Rapport, 2001; Faraone et al, 2001; Bradley et al, 2001; Gilmore, 2000; Martens, 2000; Kuntsi et al, 2000; Champbell, 2000; Zohar et al, 1999; Cook, 1999; Kotasova, 1999

Muy importante es el dato aportado por Baumeister et al (2001) sobre la inconsistencia entre los estudios que apoyan la etiología biológica del Trastorno y por Faraone et al (1999) en el mismo sentido relacionado con el papel del gen de la dopamina D-sub-4.

Finalmente, algunas obras que nos parecen interesantes son

- la tesis de Memenamy (2001) en la que generó un diseño para evaluar las atribuciones que los niños realizaban sobre la etiología del Trastorno, así como el estudio de Tingle (2000) en que sometía a grupos familiares a educación acerca del TDAH y observaba los cambios en los esquemas sobre etiología en los niños y las niñas, así como en los padres y las madres de forma diferenciada.
- el estudio longitudinal realizado por Loeber et al (2000) durante 13 años.
- los estudios de Jensen (2000) y de Samudra et al (1999) donde se analizan diferentes factores que pueden estar detrás del TDAH (familiares, genéticos, prenatales o perinatales, toxinas químicas, estresores psicosociales, estructuras cerebrales, disfunciones cerebrales).

REFERENCIAS Y BIBLIOGRAFÍA:

Amador, J A; Forns, M; Martorell, B (2001). Características del Trastorno por déficit de atención con hiperactividad. / Characteristics of attention deficit hyperactivity disorder. *Anuario de Psicología*. Dec; 32(4): 5-21

Anastopoulos, A D (1999). Attention-deficit/hyperactivity disorder. En Netherton, S D.; Holmes, D; et al. (Eds). *Child & adolescent psychological disorders: A comprehensive textbook*. Oxford textbooks in clinical psychology. Londres, Oxford University Press.

Anastopoulos, A D; Klinger, E E; Temple, E P (2001). Treating children and adolescents with attention-deficit/hyperactivity disorder. En Hughes, J N.; La Greca, A M; et al. (Eds). *Handbook of psychological services for children and adolescents*. Londres, Oxford University Press.

Archibald, S J (2002). Understanding physical overactivity in ADHD: Utilization behavior. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. May; 62(10-B): 4771

Asherson, P; Curran, S (2000). Approaches to gene identification in neuro-psychiatric and other complex disorders. *Acta Neurologica Scandinavica Supplementum*. 102(Suppl175): 20-22

Austin, K M (1999). Adult attention deficit hyperactivity disorder: Personality characteristics and comorbidity. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. Jan; 59(7-B): 3751

Bain, J L (2001). Language development in children with Attention Deficit Disorder. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. May; 61(10-B): 5593

Baker, D B (2000). Custodial grandparenting and ADHD. En Hayslip, B Jr.; Goldberg Glen, R (Eds). *Grandparents raising grandchildren: Theoretical, empirical, and clinical perspectives*. Nueva York, EE.UU.: Springer Publishing Co.

Barr, C L; Wigg, K; Zai, G; Roberts, W; Malone, M; Schachar, R; Tannock, R; Kennedy, J L (2001). Attention deficit hyperactivity disorder and the adrenergic receptors alpha1C and alpha2C. *Molecular Psychiatry*. May; 6(3): 334-337

Batshaw, M L (Ed) (2001). *When your child has a disability: The complete sourcebook of daily and medical care* (rev. ed.).

Baumeister, A A; Hawkins, M F (2001). Incoherence of neuroimaging studies of attention deficit/hyperactivity disorder. *Clinical Neuropharmacology*. Jan-Feb; 24(1): 2-10

Baumeister, A A; Hawkins, M F (2001). Erratum. *Clinical Neuropharmacology*. May-Jun; 24(3): 180

Biederman, J; Spencer, T (1999). Attention-deficit/hyperactivity disorder (ADHD) as a noradrenergic disorder. *Biological Psychiatry*. Nov; 46(9): 1234-1242

Biederman, J; Spencer, T J (2000). Genetics of childhood disorders: XIX. ADHD, part 3: Is ADHD a noradrenergic disorder? *Journal of the American Academy of Child and Adolescent Psychiatry*. Oct; 39(10): 1330-1333

Bonafina, M A; Newcorn, J H; McKay, K E; Koda, Vivian H; Halperin, Jeffrey M (2000). ADHD and reading disabilities: A cluster analytic approach for distinguishing subgroups. *Journal of Learning Disabilities*. May-Jun; 33(3): 297-307

- Bradley, J D D; Golden, C J (2001). Biological contributions to the presentation and understanding of attention-deficit/hyperactivity disorder: A review. *Clinical Psychology Review*. Aug; 21(6): 907-929
- Bradshaw, John L; Sheppard, Dianne M (2000). The neurodevelopmental frontostriatal disorders: Evolutionary adaptiveness and anomalous lateralization. *Brain and Language*. Jun; 73(2): 297-320
- Brody, J F (2001). Evolutionary recasting: ADHD, mania and its variants. *Journal of Affective Disorders*. Jul; 65(2): 197-215
- Budman, C L; Bruun, R D; Park, K S; Lesser, M; Olson, M (2000). Explosive outbursts in children with Tourette's disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*. Oct; 39(10): 1270-1276
- Burt, S A; Krueger, R F; McGue, M; Iacono, W G (2001). Sources of covariation among attention-deficit/hyperactivity disorder, oppositional defiant disorder, and conduct disorder: The importance of shared environment. *Journal of Abnormal Psychology*. Nov; 110(4): 516-525
- Campbell, S M (2000). Attention-deficit/hyperactivity disorder: A developmental view. En Sameroff, A J.; Lewis, M; et al.(Eds) . *Handbook of developmental psychopathology* (20 ed.). Dordrecht, Holanda: Kluwer Academic Publishers.
- Casat, C D; Pearson, D A; Casat, J P (2001). Attention deficit/hyperactivity disorder. En Vance, H. B; Pumariega, A (Eds). *Clinical assessment of child and adolescent behavior*. Nueva York, EE.UU.: John Wiley & Sons
- Chang, K D; Steiner, H; Ketter, T A (2000). Psychiatric phenomenology of child and adolescent bipolar offspring. *Journal of the American Academy of Child and Adolescent Psychiatry*. Apr; 39(4): 453-460
- Clarke, A R; Barry, R J; McCarthy, R; Selikowitz, M; Brown, C R (2002). EEG evidence for a new conceptualisation of attention deficit hyperactivity disorder. *Clinical Neurophysiology*. Jul; 113(7): 1036-1044
- Cook, E H Jr (1999). Genetics of attention-deficit hyperactivity disorder. *Mental Retardation and Developmental Disabilities Research Reviews*. 5(3): 191-198
- Cyr, M; Brown, C S (2000). Current drug therapy recommendations for the treatment of attention deficit hyperactivity disorder. En Palmer, K J. (Ed). *Topics in paediatric psychiatry*. Kwai Chung, Hong Kong: Adis International Publications.
- Davison, J C; Ford, Donna Y (2001). Perceptions of Attention Deficit Hyperactivity Disorder in one African American community. *Journal of Negro Education*. Fal; 70(4): 264-274
- Denney, C B (2001). Stimulant effects in attention deficit hyperactivity disorder: Theoretical and empirical issues. *Journal of Community Psychology*. Mar; 30(1): 98- 109
- DeVeaughe Geiss, J (2002). "Tourette's syndrome": Comment. *New England Journal of Medicine*. Feb; 346(9): 710
- Dinter, L D (2001). An Adlerian conceptualization of Attention-Deficit Hyperactivity Disorder: Personality traits and lifestyle. *Dissertation Abstracts International: Section B: The Sciences and*

Engineering. May; 61(10-B): 5609

Durston, S; Hulshoff Pol, H E; Casey, B J; Giedd, J N; Buitelaar, J K; van Engeland, H (2001). Anatomical MRI of the developing human brain: What have we learned? *Journal of the American Academy of Child and Adolescent Psychiatry. Sep; 40(9): 1012-1020*

Everett, C A; Everett, S V (1999). Family therapy for ADHD: Treating children, adolescents, and adults. Oltmanns, T F; Neale, J M; Davison, G C (1999). *Case studies in abnormal psychology* (50 ed.).

Faraone, S V (2000). Genetics of childhood disorders: XX. ADHD, part 4: Is ADHD genetically heterogeneous? *Journal of the American Academy of Child and Adolescent Psychiatry. Nov; 39(11): 1455-1457*

Faraone, S V; Biederman, J (2000). Nature, nurture, and attention deficit hyperactivity disorder. *Developmental Review. Dec; 20(4): 568-581*

Faraone, S V; Biederman, J; Weiffenbach, B; Keith, T; Chu, M P; Weaver, A; Spencer, T J; Wilens, T E; Frazier, J; Cleves, M; Sakai, J (1999). Dopamine D-sub-4 gene 7-repeat allele and attention deficit hyperactivity disorder. *American Journal of Psychiatry. May; 156(5): 768-770*

Faraone, S V; Doyle, A E (2001). The nature and heritability of attention-deficit/hyperactivity disorder. *Child and Adolescent Psychiatric Clinics of North America. Apr; 10(2): 299-316*

Fishbein, D H (Ed) (2000). *The science, treatment, and prevention of antisocial behaviors: Application to the criminal justice system.*

Fitzgerald, M (2001). Borderline pathology: Comment. *Journal of the American Academy of Child and Adolescent Psychiatry. Oct; 40(10): 1124-1124*

Frick, P J; Silverthorn, P (2001). Psychopathology in children. En Sutker, P B.; Adams, H E. (Eds). *Comprehensive handbook of psychopathology* (30 ed.). (pp. 881-920). Nueva York, EE.UU.: Kluwer Academic/Plenum Publishers.

Garrett, T E (2000). Psychiatrists' and psychologists' attitudes toward the psychosocial and medical models of attention deficit hyperactivity disorder. Dissertation Abstracts International: Section B: The Sciences and Engineering. Dec; 61(5-B): 2758

Gerjets, P; Graw, T; Heise, E; Westermann, R; Rothenberger, A (2002). Handlungskontrolldefizite und stoerungsspezifische Zielintentionen bei der Hyperkinetischen Stoerung: I: Ein handlungspyschologisches Rahmenmodell. / Deficits of action control and specific goal intentions in hyperkinetic disorder. I: An action-theoretical framework. *Zeitschrift fuer Klinische Psychologie und Psychotherapie: Forschung und Praxis. 31(2): 89-98*

Gilmore, K (2000). A psychoanalytic perspective on attention-deficit/hyperactivity disorder. *Journal of the American Psychoanalytic Association. 48(4): 1259-1293*

Goldstein, S (1999). Attention-deficit/hyperactivity disorder. En Goldstein, S; Reynolds, C R. (Eds). *Handbook of neurodevelopmental and genetic disorders in children*. Nueva York, EE.UU.: Guilford Press.

Hay, D A; Levy, F (2001). Implications of genetic studies of attention problems for education and

intervention. En Levy, F; Hay, D A. (Eds). *Attention, genes, and ADHD*. Nueva York, EE.UU.: Brunner Routledge.

Hill, S Y; Lowers, L; Locke Wellman, J; Shen, S (2000). Maternal smoking and drinking during pregnancy and the risk for child and adolescent psychiatric disorders. *Journal of Studies on Alcohol. Sep*; 61(5): 661-668

Hinshaw, S P; Zalecki, C (2001). Attention deficit hyperactivity disorder. En Orvaschel, H; Faust, J; et-al. (Eds). *Handbook of conceptualization and treatment of child psychopathology*. Amsterdam, Holanda: Pergamon/Elsevier Science Inc

Hollander, E; Buchalter, A J; DeCaria, C M (2000). Pathological gambling. *Psychiatric Clinics of North America. Sep*; 23(3): 629-642

Hudziak, James J (2001). The role of phenotypes (diagnoses) in genetic studies of attention-deficit/hyperactivity disorder and related child psychopathology. *Child and Adolescent Psychiatric Clinics of North America. Apr*; 10(2): 279-297

Jankovic, Joseph (2001). Tourette's syndrome. *New England Journal of Medicine. Oct*; 345(16): 1184-1192

Jensen, P S (2000). ADHD: Current concepts on etiology, pathophysiology, and neurobiology. *Child and Adolescent Psychiatric Clinics of North America. Jul*; 9(3): 557-572

Jerome, L; Washington, P; Laine, C J; Segal, A (1999). Graduating teachers' knowledge and attitudes about attention-deficit hyperactivity disorder: A comparison with practicing teachers. *Canadian Journal of Psychiatry. Mar*; 44(2): 192

Johnsen, K (2001). Psychobiology and psychopharmacology: Attention deficit/hyperactivity disorder. *Journal of the American Psychiatric Nurses Association. Apr*; 7(2): 45-48

Jones, J D (2002). Plea for a measure of understanding: The importance of intensive psychotherapy in the treatment of children with ADHD. *Psychotherapy: Theory, Research, Practice, Training. Spr*; 39(1): 12-20

Kalbfleisch, M L (2001). Electroencephalographic (EEG) differences between boys with average and high-aptitude with and without attention deficit hyperactivity disorder (ADHD) during task transitions. *Dissertation Abstracts International: Section B: The Sciences and Engineering. Jul*; 62(1-B): 96

Kendall, P C (2000). *Childhood disorders*.

Kolar, D; Bojanin, S (2000). Razvojni hiperkineticki sindrom u savremenoj strucnoj literaturi. / Developmental hyperkinetic disorder in the contemporary professional literature. *Psihijatrija Danas. 32(2-3)*: 181-201

Kotasova, J (1999). Hyperkineticky syndrom--psychologicky pohled. / Hyperkinetic syndrome: Psychological aspect. *Ceska a Slovenska Psychiatrie. Apr*; 95(3): 165-175

Kropotov, Y D; Ponomarev, V A; Grin' Yatsenko, V A (2001). EEG-biocontrol method in treating the attention deficit hyperactivity disorder in children. *Human Physiology. Jul*; 27(4): 496-504

Kuntsi, J; Stevenson, J (2000). Hyperactivity in children: A focus on genetic research and psychological theories. *Clinical Child and Family Psychology Review*. Mar; 3(1): 1-23

Kutcher, S (Ed) (2002). *Practical child and adolescent psychopharmacology*.

Lahey, B B; McBurnett, K; Loeber, R (2000). Are attention-deficit / hyperactivity disorder and oppositional defiant disorder developmental precursors to conduct disorder? En Sameroff, A J.; Lewis, M; et-al. (Eds). *Handbook of developmental psychopathology* (20 ed.). Dordrecht, Holanda: Kluwer Academic Publishers

Leckman, J F; Cohen, D J (Eds) (1999). *Tourette's syndrome-tics, obsessions, compulsions: Developmental psychopathology and clinical care*.

Lensch, C R (2000). *Making sense of attention deficit/hyperactivity disorder*.

Loeber, R; Green, S M; Lahey, B B; Frick, P J; McBurnett, K (2000). Findings on disruptive behavior disorders from the first decade of the Developmental Trends Study. *Clinical Child and Family Psychology Review*. Mar; 3(1): 37-60

Low, C B (1999). Attention deficit hyperactivity disorder: Dissociation and adaptation (a theoretical presentation and case study). *American Journal of Clinical Hypnosis*. Jan; 41(3): 253-261

Luxenberg, T M (2000). Can children develop Dissociative Identity Disorder? A theoretical exploration of the origins of the fragmented self. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. May; 60(10-B): 5228

Lynskey, M T; Hall, W (2001). Attention deficit hyperactivity disorder and substance use disorders: Is there a causal link? *Addiction*. Jun; 96(6): 815-822

Martens, W H J (2000). Antisocial and psychopathic personality disorders: Causes, course, and remission--a review article. *International Journal of Offender Therapy and Comparative Criminology*. Aug; 44(4): 406-430

Mcmenamy, J M (2001). Children's understanding of psychological and physical conditions: An investigation of domain specificity. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. Apr; 61(9 B): 50-29

Muglia, P; Jain, U; Kennedy, J L (2002). A transmission disequilibrium test of the Ser9/Gly dopamine D3 receptor gene polymorphism in adult attention-deficit hyperactivity disorder. *Behavioural Brain Research*. Mar; 130(1-2): 91-95

Nadder, T S; Rutter, M; Silberg, J L; Maes, H H; Eaves, L J (2002). Genetic effects on the variation and covariation of attention deficit-hyperactivity disorder (ADHD) and oppositional-defiant disorder/conduct disorder (ODD/CD) symptomalogies across informant and occasion of measurement. *Psychological Medicine*. Jan; 32(1): 39-53

Park, H L (2001). Development and validation of an MMPI-2 scale to assess symptoms of attention deficit hyperactivity disorder in adults. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. Apr; 61(9-B): 5049

Paule, M; Rowland, A S; Ferguson, S A; Chelonis, J J; Tannock, R; Swanson, J M; Castellanos, F X

- (2000). Attention deficit/hyperactivity disorder: Characteristics, interventions, and models. *Neurotoxicology and Teratology. Sep-Oct; 22(5): 631-651*
- Pauls, D L; Alsobrook, J P; Gelernter, J; Leckman, J F (1999). Genetic vulnerability. En Leckman, J F.; Cohen, D J. (Eds). *Tourette's syndrome--Tics, obsessions, compulsions: Developmental psychopathology and clinical care*. Nueva York, EE.UU.: John Wiley & Sons
- Pick, L H; Halperin, J M; Schwartz, S T; Newcorn, J H (1999). A longitudinal study of neurobiological mechanisms in boys with attention-deficit hyperactivity disorder: Preliminary findings. *Biological Psychiatry. Feb; 45(3): 371-373*
- Ponseti, J; Vaih Koch, S R; Bosinks, H A G (2001). Zur Aetiologie von sexualstraftaten: Neuropsychologische Parameter und Komorbiditaet. / On the etiology of sexual offenses: Neuropsychological parameters and comorbidity. *Sexuologie. 8(2): 65-77*
- Quist, J F; Kennedy, J L (2001). Genetics of childhood disorders: XXIII. ADHD, part 7: The serotonin system. *Journal of the American Academy of Child and Adolescent Psychiatry. Feb; 40(2): 253-256*
- Ramsay, M C; Reynolds, C R (2000). Does smoking by pregnant women influence IQ, birth weight, and developmental disabilities in their infants? A methodological review and multivariate analysis. *Neuropsychology Review. Mar; 10(1): 1-40*
- Rapport, M D (2001). Attention-deficit/hyperactivity disorder. En Hersen, M; Van Hasselt, V B. (Eds). *Advanced abnormal psychology* (20 ed.). Dordrecht, Holanda: Kluwer Academic Publishers
- Rapport, M D; Chung, K M (2000). Attention deficit hyperactivity disorder. En Hersen, M; Ammerman, R T. (Eds). *Advanced abnormal child psychology* (20 ed.). Mahwah, NJ, EE.UU.: Lawrence Erlbaum Associates, Publishers.
- Ravenel, S DuBose (2002). A new behavioral approach for ADD/ADHD and behavioral management without medication. *Ethical Human Sciences and Services. Sum; 4(2): 93-106*
- Reeve, W V; Schandler, S L (2001). Frontal lobe functioning in adolescents with attention deficit hyperactivity disorder. *Adolescence. Win; 36(144): 749-765*
- Resnick, R J (2000). *The hidden disorder: A clinician's guide to attention deficit hyperactivity disorder in adults*.
- Reynolds, M; Kirisci, L (2001). The relationship between behavioral dysregulation in late childhood and cigarette smoking at age 16. *Journal of Child and Adolescent Substance Abuse. 10(4): 91-99*
- Rhee, S H (2000). A genetic epidemiological study of sex differences in ADHD. *Dissertation Abstracts International: Section B: The Sciences and Engineering. Jun; 60(11-B): 5788*
- Rhee, S H; Waldman, I D; Hay, D A; Levy, F (1999). Sex differences in genetic and environmental influences on DSM-III-R attention-deficit/hyperactivity disorder. *Journal of Abnormal Psychology. Feb; 108(1): 24-41*
- Sallee, F R; Spratt, E G (1999). Tic disorders. En Ammerman, R T.; Hersen, M et al. (Eds). *Handbook of prescriptive treatments for children and adolescents* (20 ed.). Needham Heights, MA, EE.UU.: Allyn & Bacon.

Sameroff, A J (Ed); Lewis, M (Ed); Miller, S M (Ed) (2000). *Handbook of developmental psychopathology* (20 ed.).

Samudra, K; Cantwell, D P (1999). Risk factors for attention-deficit/hyperactivity disorder. En Quay, H C.Hogan, A E. (Eds). (1999). *Handbook of disruptive behavior disorders..* Dordrecht, Holanda: Kluwer Academic Publishers.

Sandoval Barbosa, E; Milnitsky Stein, L (1999). Cem anos de historia do transtorno de deficit de atencao e hiperatividade./One hundred years of history of attention deficit and hyperactivity disorder. *Revista de Psiquiatria do Rio Grande do Sul. Sep-Dec;* 21(3): 228-234

Shah, C P; Bliss, B J (2000). Assessment of auditory functioning. En Bracken, B A. (Ed). *The psychoeducational assessment of preschool children:* (30 ed.). Needham Heights, MA, EE.UU.: Allyn & Bacon.

Shalev, R S; Manor, O; Kerem, B; Ayali, M; Badichi, N; Friedlander, Y; Gross Tsur, V (2001). Developmental dyscalculia is a familial learning disability. *Journal of Learning Disabilities. Jan-Feb;* 34(1): 59-65

Shaver, S M (1999). The relationship among teaching practices, attitudes about ADHD and medical and special education referral by teachers. *Dissertation Abstracts International Section A: Humanities and Social Sciences. Feb;* 59(8-A): 2854

Sheppard, D M; Bradshaw, J L; Purcell, R; Pantelis, C (1999). Tourette's and comorbid syndromes: Obsessive compulsive and attention deficit hyperactivity disorder. A common etiology? *Clinical Psychology Review. Aug;* 19(5): 531-552

Silver, L B (1999). *Attention-deficit/hyperactivity disorders: A clinical guide to diagnosis and treatment for health and mental health professionals* (20 ed.).

Simmel, C; Brooks, D; Barth, R P; Hinshaw, S P (2001). Externalizing symptomatology among adoptive youth: Prevalence and preadoption risk factors. *Journal of Abnormal Child Psychology. Feb;* 29(1): 57-69

Solanto, M V (2001). Attention deficit/hyperactivity disorder: Clinical features. En Solanto, M V.; Arnsten, A F T; et al. (Eds). *Stimulant drugs and ADHD: Basic and clinical neuroscience.* Londres, Oxford University Press.

Spencer, T J (2002). Attention deficit/hyperactivity disorder. *Archives of Neurology. Feb;* 59(2): 314-316

Stahl, N D; Clarizio, H F (1999). Conduct disorder and comorbidity. *Psychology in the Schools. Jan;* 36(1): 41-50

Stein, M A (1999). Unravelling sleep problems in treated and untreated children with ADHD. *Journal of Child and Adolescent Psychopharmacology. 9(3):* 157-168

Sullivan, M A; Rudnik Levin, F (2001). Attention deficit/hyperactivity disorder and substance abuse: Diagnostic and therapeutic considerations. En Wasserstein, J; Wolf, L E.; et-al. (Eds). *Adult attention deficit disorder: Brain mechanisms and life outcomes. Annals of the Nueva York Academy Sciences,* 931. Nueva York, EE.UU.: Nueva York Academy of Sciences

Sunohara, G A; Roberts, W; Malone, M; Schachar, R J; Tannock, R; Basile, V S; Wigal, T; Wigal, S B; Schuck, S; Moriarty, J; Swanson, J M; Kennedy, J L; Barr, C L (2000). Linkage of the dopamine D4 receptor gene and attention-deficit/hyperactivity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*. Dec; 39(12): 1537-1542

Tercyak, K P; Peshkin, B N; Walker, L R; Stein, M A (2002). Cigarette smoking among youth with Attention Deficit/Hyperactivity Disorder: Clinical phenomenology, comorbidity, and genetics. *Journal of Clinical Psychology in Medical Settings*. Mar; 9(1): 35-50

Thapar, A; Harrington, R; McGuffin, P (2001). Examining the comorbidity of ADHD-related behaviours and conduct problems using a twin study design. *British Journal of Psychiatry*. Sep; 179(3): 224-229

Thapar, A; Holmes, J; Poulton, K; Harrington, R (1999). Genetic basis of attention deficit and hyperactivity. *British Journal of Psychiatry*. Feb; 174: 105-111

Thomas, M S (2000). Variables effecting treatment outcome of children with attention deficit/hyperactivity disorder. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. Jun; 60(11-B): 5795

Tingle, A M (2000). Evaluation of a systemic belief treatment for Attention Deficit Hyperactivity Disorder (ADHD) families. *Dissertation Abstracts International: Section B: The Sciences and Engineering*. Jun; 60(11-B): 5795

Todd, R D (2001). Probing the nature of child psychopathology. *Child and Adolescent Psychiatric Clinics of North America*. Apr; 10(2): 209-224

Todd, R D; Botteron, K N (2001). Is attention-deficit/hyperactivity disorder an energy deficiency syndrome? *Biological Psychiatry*. Aug; 50(3): 151-158

Tripp, G; Sutherland, D M (1999). Counseling boys with attention-deficit / hyperactivity disorder. En Horne, A M.; Kiselica, M S. (Eds). *Handbook of counseling boys and adolescent males: A practitioner's guide..* Thousand Oaks, CA, EE.UU.: Sage Publications

Tsai, L Y (1999). Psychopharmacology in autism. *Psychosomatic Medicine*. Sep-Oct; 61(5): 651-665

Waldman, I D; Rhee, S H; Levy, F; Hay, D A (2001). Causes of the overlap among symptoms of ADHD, oppositional defiant disorder, and conduct disorder. En Levy, F; Hay, D A. (Eds). *Attention, genes, and ADHD*. Nueva York, EE.UU.: Brunner Routledge.

Walkup, J T; Kahn, S; Schuerholz, L; Paik, Y S; Leckman, J F; Schultz, R T (1999). Phenomenology and natural history of tic-related ADHD and learning disabilities. En Leckman, J F.; Cohen, D J. (Eds).. *Tourette's syndrome-tics, obsessions, compulsions: Developmental psychopathology and clinical care*. Nueva York, EE.UU.: John Wiley & Sons

Waschbusch, D A (2002). A meta analytic examination of comorbid hyperactive impulsive attention problems and conduct problems. *Psychological Bulletin*. Jan; 128(1): 118-150

Weller, E B; Rowan, A; Elia, J; Weller, R A (1999). Aggressive behavior in patients with attention-deficit/hyperactivity disorder, conduct disorder, and pervasive developmental disorders. *Journal of Clinical Psychiatry*. 60(Suppl 15): 5-11

Weller, E; Rowan, A; Weller, R; Elia, J (1999). Aggressive behavior associated with attention-deficit/hyperactivity disorder, conduct disorder, and developmental disabilities. *Journal of Clinical Psychiatry Monograph Series*. Apr; 17(2): 2-7

Wenar, C; Kerig, P (2000). *Developmental psychopathology: From infancy through adolescence* (40 ed.).

Wendt, M S (2000). The effect of an activity program designed with intense physical exercise on the behavior of attention deficit hyperactivity disorder (ADHD) children. *Dissertation Abstracts International Section A: Humanities and Social Sciences*. Aug; 61(2-A): 500

White, J D (1999). Personality, temperament, and ADHD: A review of the literature. *Personality and Individual Differences*. Oct; 27(4): 589-598

Willcutt, E G; Pennington, B F; DeFries, J C (2000). Etiology of inattention and hyperactivity/impulsivity in a community sample of twins with learning difficulties. *Journal of Abnormal Child Psychology*. Apr; 28(2): 149 159

Yaryura Tobias, J A; Mancebo, M; Bubrick, J (2001). Basal ganglia pathology in children and adolescents with obsessive-compulsive disorder, Tourette's syndrome, and attention-deficit hyperactivity disorder. *Psychiatric Annals*. Sep; 31(9): 565-572

Zavadenko, N N; Petrukhin, A S; Manelis, N G; Uspenskaya, T Y; Suvorinova, N Y; Borisova, T K (1999). Learning problems in schoolchildren: Psychoneurological and neuropsychological study. *Voprosy Psychologii*. 4: 21-28

Zelkowitz, P; Paris, J; Guzder, J; Feldman, R (2001). "Borderline pathology": Reply. *Journal of the American Academy of Child and Adolescent Psychiatry*. Oct; 40(10): 1124-1125

Zohar, A H; Apter, A; King, R A; Pauls, D L; Leckman, J F; Cohen, D J (1999). Epidemiological studies. En Leckman, J F.; Cohen, D J. (Eds). *Tourette's syndrome-tics, obsessions, compulsions: Developmental psychopathology and clinical care*. Nueva York, EE.UU.: John Wiley & Sons