



Diálogos con Expertos: La Pediatría de del Desarrollo y del Comportamiento

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November 18, 2010 10:15-12:15

Resumen

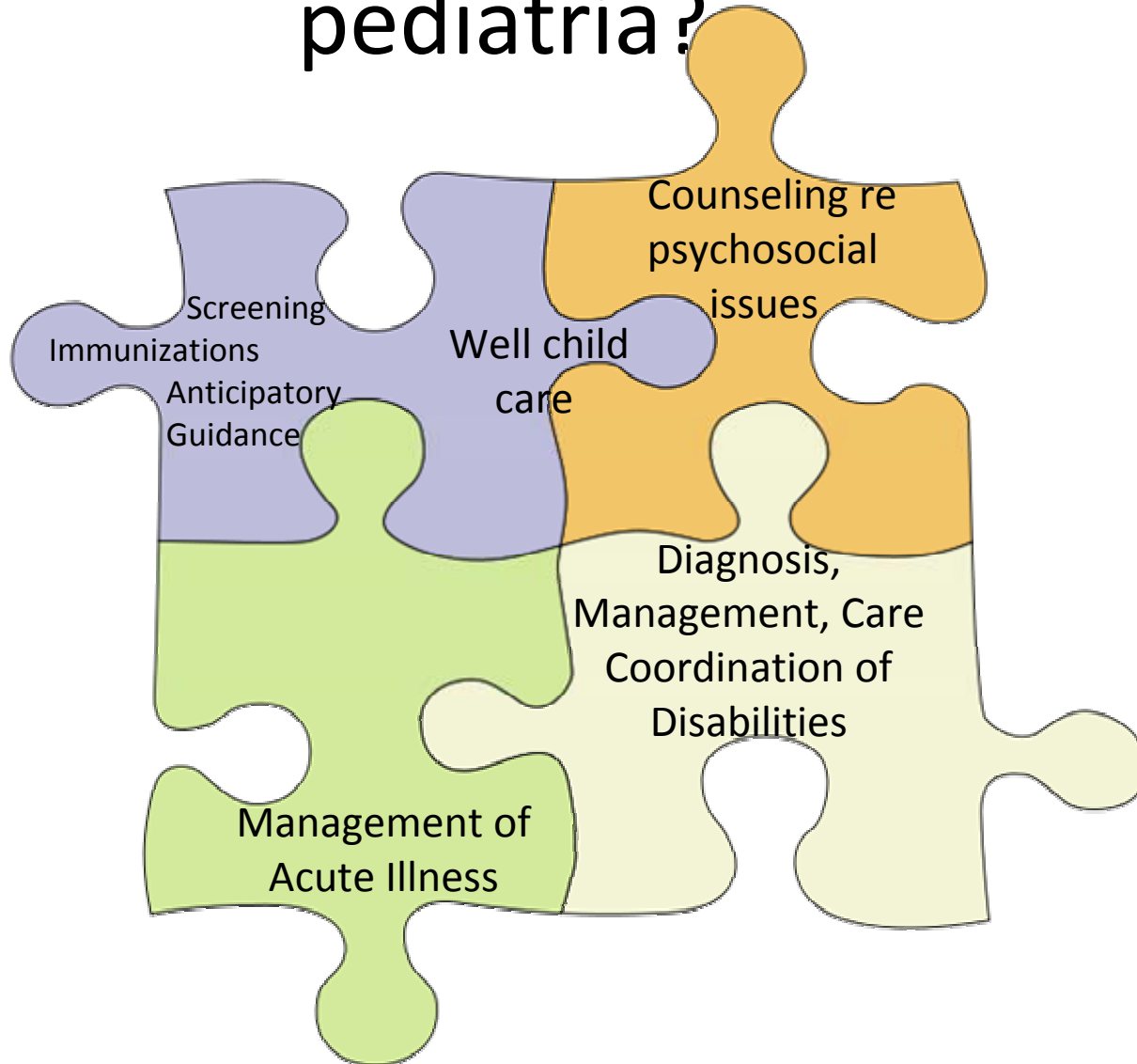
- DBP=PDC
- Describe how DBP arose in US
- Discuss history of subspecialty formation
- List resources and organizations
- Explain approaches to ADHD and autism
- Evaluate new developmental disorders

Pediatría General en los EE.UU.

- 20% of medical school graduates choose Pediatrics
 - Number of accredited programs 2005 = 201
 - Number of residents 2006 = 8,123
- Most go into private practice (2004 survey)
 - Solo, 2-physician or group practice 60%
 - Hospital, clinic, or medical school 27%
- Practice Locations
 - Upper and middle class 67%
 - Inner-city practice 21%; Rural 11 %



Rompecabezas: Cómo organizar la pediatría?



Pediatría General en los EE.UU.

- General pediatrics focuses on
 - Well child care
 - Management of acute illness
- Structure and timing of well child care is anachronistic, built around immunizations
- On average pediatricians spend 18 minute/visit
- Limited training
 - Counseling for psychosocial issues
 - Developmental and behavioral disorders/disabilities
 - Connecting children to community-based resources and services to support biopsychosocial function

Necesidad de Pediatría del Desarrollo y del Comportamiento (PDC)

- Immunizations and antibiotics reduced the burden of infectious diseases
- “New Morbidity” (Haggerty, 1975) o *Nueva Morbilidad*
 - Increased problems in development and behavior
 - Social and educational limitations
 - Long-term consequences of physical health conditions
 - Primary mental health disorders
- Child psychiatry not poised to treat the full spectrum of these disorders
- Some pediatricians began to expand their traditional roles
 - Began to diagnose and care for children with developmental and behavioral problems
 - Acquired and generated new knowledge through research to guide enterprise

Crecimiento de una Sub-Especialidad

- Fellowship training programs for DBP began in late 1960s and increased in 1970-1980s
 - Increasing numbers of pediatricians with training
 - Non-standardized programs led to diversity in field
 - Approximately ½ worked in primary care, others in special clinics
- Society for Behavioral Pediatrics incorporated in 1982 (also, a Society for Developmental Pediatrics focused on children with severe disabilities)
- Journal of Developmental and Behavioral Pediatrics launched around 1980, became official journal of SBP in 1984
- Initially, reluctance to apply for board certification because of centrality of child development to pediatrics

Camino a la Certificación

- Name changed to Society for Developmental and Behavioral Pediatrics (SDBP) in 1994 and applied to ABP for certification
 - SDP petitioned American Board of Psychiatry and Neurology (ABP&N)
 - ABP&N initially opposed SDBP application
 - Ground swell of support from general pediatricians for board specialization propelled ABP to champion DBP sub-specialization
- Many organizational steps and missteps
- Two subspecialties approved in 1998-1999
 - Developmental-Behavioral Pediatrics (within Pediatrics)
 - Neurodevelopmental Disabilities (within Child Neurology)
- First examinations 2002
- Program accreditation followed: standardized fellowships

Requisitos para ser Certificado

- Initial certification in general pediatrics
- Valid unrestricted license to practice medicine in one of the states
- 3-Year fellowship training in an accredited fellowship training program
 - Verification of Competence by Program Director
 - Evidence of scholarly activity or research
 - Passing the subspecialty certifying examination

Elementos del Programa de Formacion

- I. Foundations of Developmental-Behavioral Pediatrics
- II. Biological Mechanisms in Development and Behavior
- III. Family and Societal Factors
- IV. Elements of Assessment and Management
- V. Adaptation to General Health Problems and Their Treatment
- VI. Developmental-Behavioral Aspects of Chronic Conditions and Treatment
- VII. Cognitive/Adaptive Disabilities
- VIII. Language and Learning Disorders
- IX. Motor Disabilities and Multiple Handicaps
- X. Autism Spectrum Disorders
- XI. Attention Deficit Hyperactivity Disorder (ADHD)
- XII. Externalizing Conditions
- XIII. Internalizing Behaviors and Conditions
- XIV. Substance Use/Abuse
- XV. Child Abuse and Neglect
- XVI. Somatoform Disorders and Pain
- XVII. Sleep Problems
- XVIII. Feeding and Eating Problems
- XIX. Elimination Disorders
- XX. Sexuality
- XXI. Atypical Behaviors
- XXII. Law, Policy, and Ethics
- XXIII. Core Knowledge in Scholarly Activities

Competencias de ACGME

(la Educación Médica de Posgrado)

- **Patient Care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health
- **Medical Knowledge** about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care
- **Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care
- **Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals
- **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- **Systems-Based Practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources

¿Qué hacen los Pediatras del D/C?

- Clinical emphasis is evaluation, treatment, and management of infants, children and adolescents with a wide range of developmental and behavioral difficulties
 - Learning problems
 - Attention and behavioral disorders
 - Mobility limitations
 - Communication disorders
 - Regulatory disorders (sleep, feeding, elimination)
 - Developmental disabilities (CP, spina bifida, IDD)
 - Complications of pediatric chronic illness
 - Children at risk for these problems
- Support, educate, counsel families of the children with these conditions

Opciones de Carreras in PDC

- Clinical practice
 - Many work in multidisciplinary settings
- Academics and research
- Education
 - Participate in medical school education
 - Train general pediatric residents in one-month required rotation and longitudinal experience
- Collaborative community leadership
- Public policy to promote healthy development

La Sociedad Profesional

- An international organization dedicated to improving the health of infants, children, and adolescents by promoting research, teaching and clinical practice in developmental and behavioral pediatrics.
- Comprised of more than 700 members, the society strives to promote an understanding of the social, educational, and cultural influences on children.
- Affiliates (organizations outside the US)
 - Support the field in other countries
 - Contribute to the education and training of US DBPediaticians
- Un reunion interesante todo los anos





Diario: JDBP

- Publishes peer-reviewed empirical manuscripts, brief reports, reviews and special articles, commentaries, letters, and book reviews
- Interesting collections, such as Challenging Cases and Research Methodology Briefs
- Impact factor 2.265/5-year 3.198
- *Perspectivas Internacionales*

Otras Organizaciones y Recursos



<http://www.aap.org/sections/dbpeds/index.asp> or dbp.org



<http://dbp.mchtraining.net/>

**Maternal and Child Health
Leadership Competencies
VERSION 2.0**



Trastornos Clínicos

- ADHD (US prevalence 6-9%)
- Autism (US prevalence 1%)
- Learning problems (US prevalence 15%)
- High risk infants (Prevalence of all preterms 12.7%; <1500 grams 1.7%)
- High severity disabilities, such as sensory impairment, intellectual and developmental disabilities (US prevalence ~4-6%)

Pautas para el Diagnóstico de TDAH

- Committee on Quality Improvement, Subcommittee on Attention-Deficit/Hyperactivity Disorder.

Clinical Practice Guideline: Diagnosis and Evaluation of the Child With Attention-Deficit/Hyperactivity Disorder Pediatrics 2000 105: 1158-1170.

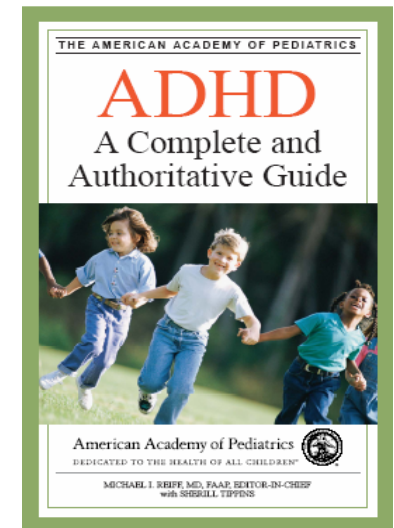
- Subcommittee on Attention-Deficit/Hyperactivity Disorder and Committee on Quality Improvement.
Clinical Practice Guideline: Treatment of the School-Aged Child With Attention-Deficit/Hyperactivity Disorder Pediatrics 2001 108: 1033-1044.

Guías de Tratamiento para el TDAH

- Demostrar la visión del mundo distinta de PDC
 - Importance of education
 - Partnerships with community-based organizations that serve children and families for diagnosis and management
 - Balance of medicine/surgery with other approaches, such as counseling, therapy, equipment

Paso 1: Educar a los padres y niños sobre el TDAH

- AAP brochure “Understanding ADHD”
- CHADD website (www.chadd.org)
- AAP: ADHD: A Complete and Authoritative Guide (Reiff)
 - For clinicians and parents
 - Diagnosis
 - Treatment (includes behavioral modification, environmental accommodations, working with school and adolescents)



Paso 2: Identificar los objetivos

- ✓ Alleviate core symptoms of ADHD
- ✓ Lessen accompanying behaviors
- ✓ Normalize peer and family relationships
- ✓ Enhance academic productivity and success
- ✓ Encourage independence in self-help and homework
- ✓ Recognize and treat coexisting conditions
- ✓ Improve organizational skills and executive functions
- ✓ Enhance self-esteem
- ✓ Prepare child to successfully function and as an adult

El Hogar Médico Equipo de Tratamiento

- Child/Adolescent
- Parent(s)
- School teacher, principal, counselor
- Behavioral therapist
- Sports coach
- Tutor
- Discussion: Who is the care coordinator?

**Paso 3. Elija las intervenciones
médicas y de comportamiento**

Medicamentos Estimulantes

Short-Acting

(4 hr)

ethylphenidate

italin[®]

ethylin,

ocalin[®]

amphetamine

Intermediate-acting (6-8 hr)

ethylphenidate

ethylphenidate SR

metadate ER/CD

ethylin ER

italin LA [®]

amphetamine

Long-acting

(10-12 hr)

Methylphenidate

Concerta[®]

Focalin ER[®]

Methylphenidate patch

Amphetamine

Adderall-XR[®]

Lisdexamfetamine

Dimesylate

Manejo de la Conducta

- Behavior management useful for the following issues
 - Oppositionality
 - Anxiety and depression symptoms
 - Teacher observed social skill deficits
 - Parent child relationships
 - Reading achievement
 - Parent and teacher satisfaction
- Behavior management allows smaller doses of stimulants

From MTA study:

Jensen P et al. *Arch Gen Psychiatry* (1999) 56:1073-1086

Jensen PS et al. Three year follow-up of the NIMH MTA Study. *JCAAP*, 2007, 46, 989-1002

Molino B et al. MTA at 8 years. *JCAAP*, 2009, 48, 484-500

Paso 4. Seguimiento

- Prioritize the target behaviors/outcomes not symptoms
- Devise ways for measuring improvement
- Different target outcomes may require different doses and/or schedules
- Regular follow-up visits to adjust medication if needed
- Change targets with age
- Follow-up through childhood to adulthood

Autismo



FOX6 Family health: Autism Drum Class
 Last Edited: Monday, 12 May 2008, 8:52 PM CDT
 Created: Monday, 12 May 2008, 8:52 PM CDT

BIRMINGHAM, Ala. (WBRC-TV, MyFoxAL.com) -- Once a month, the sound of drumbeats fills the rooms at Allan Cott School. Instructor John Scalici brings his collection of African drums, in hopes of reaching autism students, who have a hard time communicating. FOX6 Health Anchor has more details on this amazing story.



...ssuring news that thimerosal, the formerly contained in many ... an't cause autism. Before 2001, ... obulin shots—which are given to ... e blood type might be incompatible ... e made with thimerosal. A study ... Missouri-Columbia found that the ... dren were no more likely to have ... er moms.



The Secrets of Autism

The number of children diagnosed with autism and Asperger's in the U.S. is exploding. What's going on?

Read the cover story >>



TIME

El Aumento de la Prevalencia del Autismo

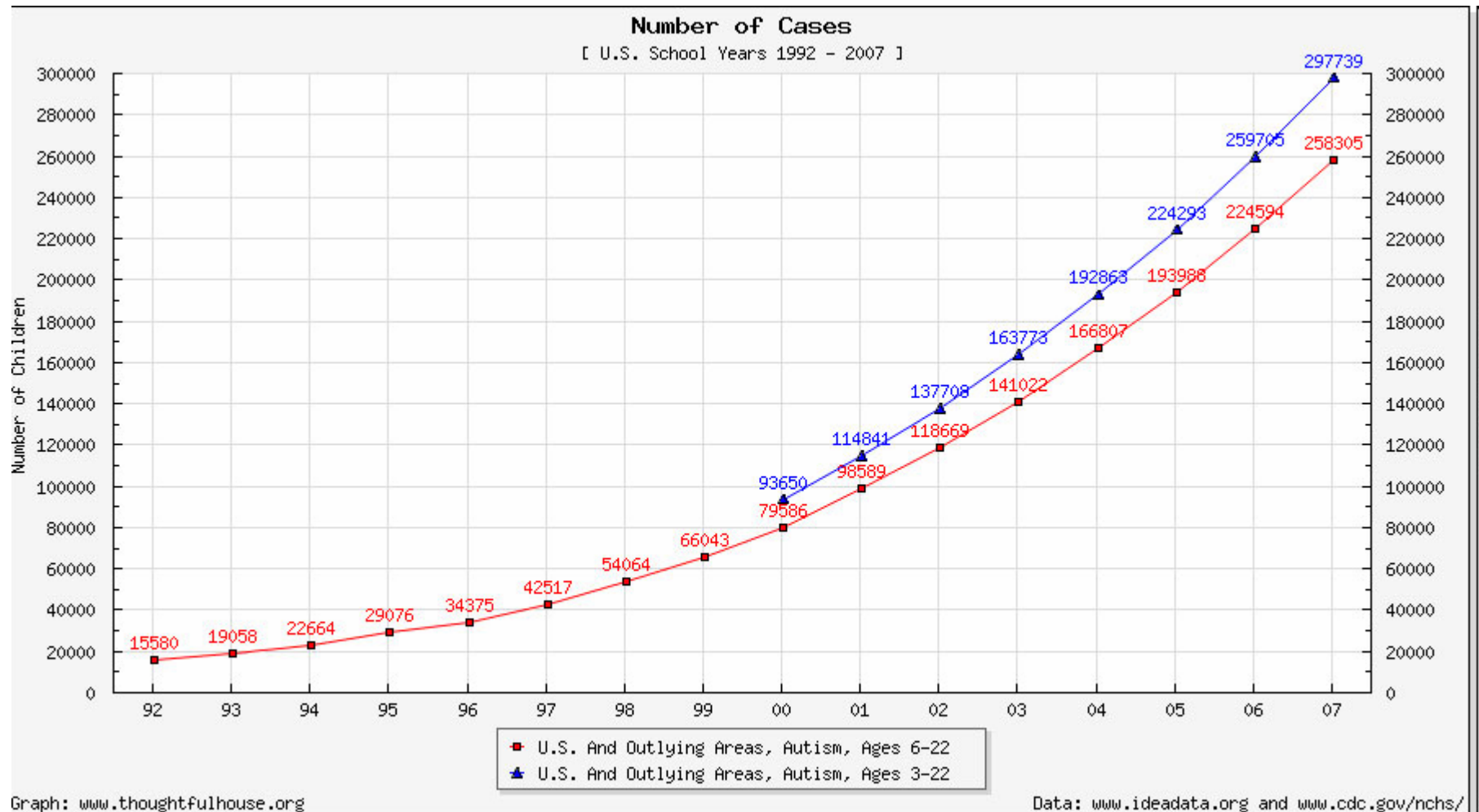
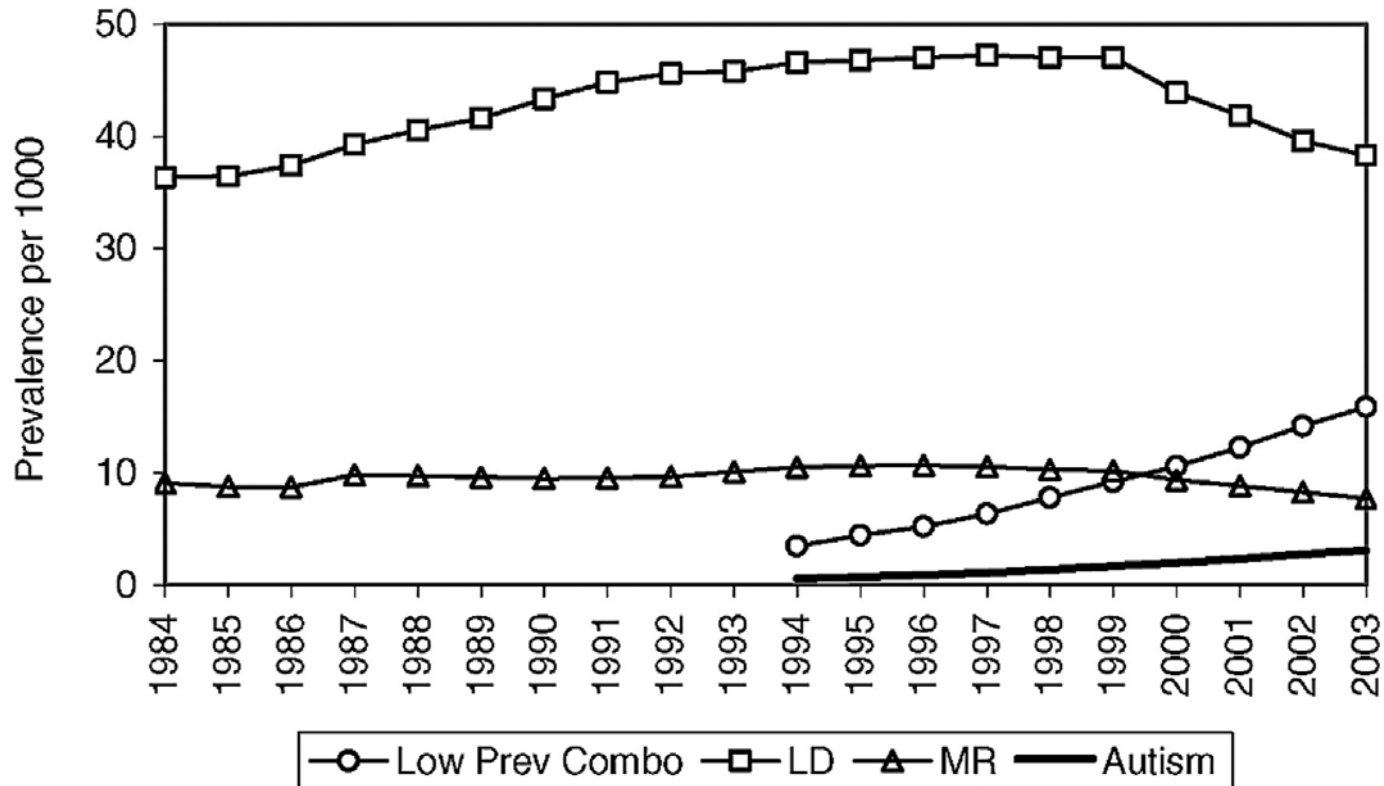


FIGURE 2 Prevalence of selected reporting categories in US special education among children aged 6 to 11: 1984-2003



Shattuck, P. T. *Pediatrics* 2006;117:1028-1037

Principales Características del Autismo

- Qualitative impairment of social interaction
 - Impairment in eye to eye gaze, gestures, posture
 - Lack of social reciprocity
- Qualitative impairment of communication
 - Delay in development of spoken language
 - Stereotyped, idiosyncratic vocalization
- Restricted and repetitive behaviors
 - Stereotyped, repetitive mannerisms
 - Intense interests



Los Síntomas Asociados

- Oppositionality, aggression
- Irritability, anger
- Hyperactivity and inattention
- Depression, anxiety
- Regulatory problems
 - Feeding and eating problems
 - Sleep disorders
 - Hypersensitivity to sensory stimuli
- GI disturbances

Autismo Pautas Clínicas

- Committee on Children With Disabilities
Technical Report: The Pediatrician's Role in the Diagnosis and Management of Autistic Spectrum Disorder in Children Pediatrics 2001 107: e85
- Scott M. Myers, Chris Plauché Johnson the Council on Children With Disabilities
Management of Children With Autism Spectrum Disorders Pediatrics 2007 120: 1162-1182

las Tareas de la PDC en el Diagnóstico

- Able to identify core features, particularly in children with milder variants
- Able to reject diagnosis when behavior patterns are not consistent with diagnosis
- Provide extensive education and counseling for parents
 - http://www.autismspeaks.org/community/family_services/manual_de_los_100_dias.php (Spanish)
 - <http://www.nimh.nih.gov/health/publications/autism/complete-index.shtml>

Evaluar las Causas

- Level I Assessment: Hearing evaluation (*Prueba de audición*)
- Level II Assessment: Genetics (*evaluación genética*)
 - Karyotype
 - Fragile X
 - Comparative Genomic Hybridization (microarray) to look for Copy Number Variants
- Level III Assessment: Tests driven by findings (*pruebas basadas en los resultados de historia y examen*)
 - Girl with hand-wringing: MECP2 for Rett syndrome
 - Hypopigmented lesions: TS1 and TS2 for Tuberous Sclerosis
 - Spells or lapses: EEG
 - Macrocephaly or abnormal neuro exam: MRI and PTEN gene

Crear un Plan de Tratamiento

- Main intervention: Specialized instruction regarding language and social skills
- DBPediatician advices on intensity and type of program (*dar consejos*)
 - Different approaches to teaching have different evidence base
 - ABA for some children; Variants such as PRT
 - Relation-based therapy for other children

Más información

- Inclusion opportunities
- Peer support
- Behavior management
 - Reduce interference in education and social interactions
- Family education and training
- Attention to associated symptoms
- Focus on functional outcomes

La Futura

- 36 Training Programs in US
- Approximately 90 fellows in training
- Many job openings in academia
- Demand outstrips supply of DBPediaticians
- Field may be expanding



Muchas afecciones son trastornos del desarrollo



- Developmental Origins of Health and Disease
 - Coronary artery disease
 - Diabetes
- Epigenetic modifications explain why adverse early experiences leads to lifelong consequences
- Biological reprogramming modulates development and permits a range of phenotypes from given genotype

Los Problemas de Salud Mental son los Trastornos del Desarrollo

- Origins of adult mental illnesses such as schizophrenia may derive from adverse events *in utero*, such as maternal nutrition deficiency, infection and hypoxia
 - Behavioral abnormalities are present from early childhood
 - Ongoing neural injury on serial MRI through late childhood and adolescence
- Revival of concept of minimal brain dysfunction
 - Repeated bouts of hypoxia may damage dopamine neurons, reduce size of dopamine-rich structures
- Poor early parenting can exacerbate antenatal stress
- Importance of parental depression—cumulative exposure rather than specific timing

Resumen

- *En EE UU, Pediatras generales no podían diagnosticar y tratar los trastornos del desarrollo*
- Care of these children requires a different model: gathering of data from multiple sources, such as home and school, making recommendations beyond medication and surgery, life span perspective
- Two conditions, ADHD and autism, demonstrate the approach used by DBP
- Notions of developmental disorders are expanding

Resumen

- DBP as a subspecialty adds value to US health care systems
 - Increasing prevalence of disorders
 - Increasing recognition of importance of chronic care models
 - New appreciation that many health and mental health disorders are developmental in nature
- In other countries, the need for DBP pediatricians might be very different based on how the collection of pediatric conditions is apportioned

Muchas gracias!