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注意力缺失過動症中醫治療實證研究

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摘　要

「注意力缺失過動症」近十年來逐漸被西方醫學所重視，診斷標準著重於注意力缺失、過動以及衝動，用藥則以中樞神經刺激劑為主，然而因為有食慾不振及睡眠障礙的副作用，讓病患及家長會因此而卻步。我們在中醫門診發現過動兒除了注意力差，專注力不足外，多數的孩子(80%左右)有怕熱、便秘、手心流汗及坐不住的現象，並且多數合併有鼻子過敏、鼻塞或者氣喘的現象，有的孩子則有夜晚抽搐或夢遊，有的孩子則有夜尿或尿床的情形。我們藉由古籍研究，發現「注意力缺失過動症」的主要問題應是在「胃熱」而不是在大腦，另外「注意力缺失過動症」有的也同時合併有脾肺氣虛、肝風內動、腎虛。我們嘗試利用實證醫學的方式，試圖以 1.Patient, Intervention, Comparison, Outcomes 的 PICO 方式，2.Literature search strategy and results ，3.Summary, presentaion and feedback to the patient 的研究方式，企圖找出最後的答案。

關鍵詞：注意力缺失過動症、胃熱、脾肺氣虛、肝風內動、腎虛

Number: CCMP95-TP-023

The Evidence Based Study of Chinese Medicine for Attention Deficiency Hyperactive Disorder

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ABSTRACT

The purpose of this study is to make people understand more about the pathophysiology in attention deficiency hyperactive disorder (ADHD). We use the method of EBM study to evaluate the actual problems in ADHD.

We hope that the study will remind the medical personnel to understand. That the answer of ADHD is in the GI SYSTEM, not in the nervous system.

Keywords: ADHD, stomach, spleen, liver, kidney

壹、前言

「注意力缺失過動症」近十年來逐漸被西方醫學所重視，然而注意的焦點放在大腦之上，因此所做的研究也以大腦為主，無論是腦波、誘發電位、腦部血流超音波、乃至核磁共振...等，都是以大腦為主要的研究。然而「注意力缺失過動症」除了有西方醫學所注意到的專注力差、過動或衝動，他們還有身體其他的困難，是現今醫學界所未曾了解或注意的部份。我們在近兩年的門診觀察，近兩百位的孩童有八成以上有怕熱、便秘、手心流汗及坐不住的現象，並且多數合併有鼻子過敏、鼻塞或者氣喘的現象，有的孩子則有睡眠中抽搐、癲癇或夢遊，通常若為睡眠中抽搐，一次手腳抽搐的時間大約數秒，很少超過一分鐘，但可能持續整晚。睡眠中抽搐可在白天發生。只要睡著就可發生。通常家長並不會注意，因為通常「看」不出來，只有用手腳觸碰孩子的四肢，才可以感覺睡眠中抽搐的現象。有的孩子則有夜尿或尿床的情形。依本院門診的治療觀察中，認為注意力缺失過動症的辨證分型應為 1.胃熱型：便秘、手足心流汗、大汗、坐不住、怕熱 2.脾肺氣虛：鼻子過敏、氣喘 3.腎虛：夜尿或尿床、健忘 4.肝風內動：睡眠中手腳抽動，癲癇或夢遊。

對於可能是由於胃熱、脾肺氣虛、腎虛、肝風內動或風痰所引起的注意力缺失過動症，醫學界至今並無共識。我們期盼藉由 EBM STUDY，從注意力缺失過動症臨床常見的二十餘種可能的症狀，尋求可能的病因病機，為注意力缺失過動症勾勒出完整的可能面貌。如果我們能因此找到注意力缺失過動症的真正病因病機，對於醫學界長期以來對於注意力缺失過動症的了解，會是不同於以往的思考模式。

貳、材料與方法

材料：

我們利用 google，Pubmed，Cochrane Library，Ovid(EBM)，Up to Date，Sumsearch，Trip Database 等搜尋網站，找出可供研究整理的資料 。

方法：

一、從古籍研究與門診觀察，設計問卷，並先從臨床上被精神科確定診斷的注意力缺失過動症做問卷調查，再初步設計問卷。

二、經由專家會議討論，確定問卷調查。

三、由於上述搜尋網站極少「注意力缺失過動症與中醫治療」的說法，我們嘗試 keyword” constipation and ADHD” 、” sweating and ADHD”、”periodic limb movement And ADHD”…等關鍵詞搜尋，再從 related articles，去篩選可能與胃熱、脾氣虛、腎氣虛及肝風內動相關文獻進行分析與整理討論。

四、先做 PILOT STUDY，與台北榮總精神科合作，隨意挑選三十位已確定診斷為注意力缺失過動症的病患，並已服用西藥(RITALIN OR CONCERTA)數月至數年不等，經同意填選問卷調查，將結果做成統計。

五、在台東縣中小學發出問卷調查，並回收做統計分析。

參、結果

一、初步問卷內容：經專家會議討論，左邊為西醫 DSMIVR 的精神科診斷標準，右邊為中醫的辨證分型。

「注意力缺失過動症」中西醫自我評估檢查表

「注意力缺失過動症」不容易在日常生活中被明顯重視，而卻時時刻刻在生活週遭影響著我們，希望藉由這一份「注意力缺失過動症」自我評估檢查表，讓父母及家長們及時了解我們的孩子可能是「有困難」而非「故意」坐不住的，讓這群「頭腦近視」的孩子們能得到更適當的醫療與更適切的教育。

「注意力缺失過動症」主要分為注意力不足、過動及衝動，而中醫觀點則認為有的孩子分屬胃熱、脾氣虛、腎氣不固及肝風內動等，如您發現孩子有以下症狀需作進一步瞭解及希望提供完整的醫療照護時，請洽行政院衛生署台東醫院中醫科曾綺華醫師諮詢。

下表所列七大項之每一小項為 1 分，若總分超過 12 分，則需請醫師評估。

(一)注意力不足(至少六項以上)：計_____分
- □粗心、易忽略細節
- □活動時注意力難以持續
- □談話時，常一副不專心的樣子
- □無法遵循他人的指示完成事情
- □組織力差
- □逃遁、不喜歡、抗拒需要持續用腦的工作
- □常丟東西
- □易因外界無關的刺激而分心
- □常忘記例行的活動

(二)過動—衝動：計_____分(至少六項)

過動
- □東摸西摸，扭動身體，坐立難安
- □無法靜坐
- □不分場合，過度的跑或爬
- □很難安靜的玩
- □總是動個不停
- □常話太多

衝動
- □常在問題未說完前搶答
- □輪流時難以等待
- □常干擾或冒犯他人

(四)胃熱：計_____分
- □怕熱
- □肚子怕熱，睡覺常把衣服掀開
- □一身大汗
- □常便秘或大便一粒粒
- □手(腳)心流汗
- □流鼻血

(五)脾氣虛：計_____分
- □鼻子怕冷，遇冷氣會打噴嚏或流鼻水及鼻塞
- □易氣喘
- □過敏性鼻炎
- □易腹瀉

(六)腎氣不固：計_____分
- □尿床
- □夜尿
- □尿失禁

(七)肝風內動：計_____分
- □夜晚睡覺時手腳抽動
- □夢遊
- □癲癇發作

總分：計_____分

二、用”constipation and ADHD”，”sweating and ADHD”，”periodic limb movement And ADHD”關鍵詞搜尋我們綜合整理其中相關資料，現將篩檢資料依序呈現如下：

(一)證候的討論：

1.便秘：

(1)中醫對便秘的辨證：

又名大便難、大便不通、大便秘結。指大便干燥堅硬，排

出困難；或排便次數少，通常二、三天以上不大便者。有正虛與邪實之不同。氣虛陽弱，推動無力，或陰虛血少，腸燥便結，以致便秘，可統稱為陰結。實熱痰濕壅結，或氣滯不行而成便秘，可統稱為陽結。《景岳全書》卷三十四：“蓋陽結者，邪有余，宜攻宜瀉者也；陰結者，正不足，宜補宜滋者也”。便秘有陽結、陰結、實秘、虛秘、氣秘、風秘、痰秘、冷秘、熱秘、脾約之分。

a.熱秘：

熱結大腸所致的大便秘結。症見身熱面赤，惡熱喜冷，口舌生瘡，口燥唇焦，小便黃赤，舌苔黃，脈數實。治宜清熱攻下。用涼膈散或三黃枳朮丸、木香檳榔丸等方。

熱積胃痛，多由胃熱熾盛，或情志郁結，久而化火。症見胃痛時作，痛勢迫切，脘部有灼熱感，口渴唇燥，身熱面赤，便秘多汗，或煩躁易怒，脈數等。治宜清熱疏導為主。用清中湯（《症因脈治》：黃連、山梔、半夏、草豆蔻、陳皮、白茯苓、甘草）、化肝煎、調胃承氣湯等方加減。熱痛由陰虛所致者，症見胃痛嘈雜似飢，口干少津，大便艱澀，舌紅或苔中剝，脈弦細數，可用六味丸、一貫煎、養胃湯（《証治准繩》：蒼朮、厚朴、半夏、藿香、草果仁、茯苓、人參、甘草、橘紅）等方。

b.氣秘《濟生方》：氣滯或氣虛所致的便秘。氣滯者，多起于七情郁結，症見脘腹脹滿，胸脅刺痛，噯氣，欲便而不得便。治宜順氣潤腸，可用四磨湯、搜風潤腸丸。老人可用橘杏丸（《類証治裁》：橘皮、杏仁）、二仁丸（《類証治裁》：杏仁、麻仁、枳殼、訶子肉）。肺氣不降者用蘇子降氣湯加枳殼。氣虛不運者，症見大便不出，精神倦怠，言語無力，舌淡，脈弱，治宜益氣潤腸，可用黃耆湯（《金匱翼》：黃耆、陳皮、麻仁）、威靈仙丸（《世醫得效方》：黃耆、枳實、威靈仙）等。

c.冷秘《濟生方》：又名陰結、寒結，因脾腎陽虛，陰寒凝結，溫運無力所致的大便秘結。症見唇淡口和，四肢不溫，腰腹覺冷，或腹中冷痛，喜熱惡寒，小便清長，舌胖苔白，脈細無力。治宜補腎溫陽。用半硫丸或腎氣丸加蓯蓉、牛膝等。

d.虛秘《衛生寶鑒》：正虛不運而致的便秘。因氣虛所致者，亦屬氣秘，詳見氣秘條。因陽虛寒盛者，亦屬冷秘，詳見冷秘條。因年老體弱，精血不足，及產后血虛津少，以致便秘

者，治宜益陰養血，生津潤腸。可用四物湯合五仁丸，或用蜜煎導法。

e.淋秘《金匱要略．五臟風寒積聚病脈証并治》：淋，小便澀痛，淋瀝不爽；秘，小便秘澀難通。

f.痰秘《張氏醫通》:因濕痰阻滯腸胃所致。症見大便秘結，胸脅痞悶，喘滿，眩暈，頭汗，腹瀉等。治宜化痰通腑。用二陳湯加枳實、大黃、白芥子、竹瀝等。重者可用控涎丹。

(2)Evidence Based Study:

Hyperkinesis and chronic constipation.

Snow PG.

A series of hyperkinetic children (Minimal Brain Dysfunction) is presented, who in part or whole responded to therapy for chronic constipation.

PMID: 1057103 [PubMed - indexed for MEDLINE]

Related Links

- [Constipation as a clinico-therapeutic problem of brain-damaged children] [Ther Umsch. 1966]
- [Hyperkinetic syndrome--a modern myth? MBD (minimal brain dysfunction)-syndrome] [Tidsskr Nor Laegeforen. 1978] PMID: 635873
- Minimal brain dysfunction--an approach to treatment. [Med J Aust. 1973] PMID: 4780516
- Food allergy in children with hyperactivity, learning disabilities and/or minimal brain dysfunction. [Ann Allergy. 1979] PMID: 760622
- [Treatment of juvenile constipation with the administration of a new micro-enema] [Dtsch Med J. 1965] PMID: 5319717
- See all Related Articles...

2.不寐

(1)中醫辨證：

《難經．第四十六難》：又名不得眠、不得臥。通常稱為失眠。指經常不易入寐，或寐而易醒，甚至徹夜不眠。可由陰血虧損，中氣不足，心脾兩虛或多痰、停水等多種原因而使心神不安所致。

a.陰血不足：心失所養者，常兼見虛火偏亢。症見心煩失眠、頭暈耳鳴，甚則五心煩熱，多汗，口干舌紅，脈細數，治宜滋陰養血為主，火亢則兼降心火，如補心丹，朱砂安神丸等方。

b.中氣虛弱者，症見失眠而神疲乏力，食欲減退，治宜補氣為主，用六君子湯、補中益氣湯加減。

c.多痰者，症見不寐，嘔惡胸悶，苔膩，脈滑，治宜化痰為主，用溫膽湯等方。

d.水氣凌心者，症見不寐，心下動悸，治宜通陽利水，用苓桂朮甘湯加減。

f.心脾兩虛所致者，症見多夢易醒，心悸健忘，飲食減少，面色少華，脈細，舌淡等，治宜補益心脾，用歸脾湯、壽脾煎等方。

g.年高氣虛或血虧而致不寐者，宜用益氣或補血。

h.病后氣虛、血虧、痰滯而失眠者。如病后余熱未清而致不寐，常見虛煩不寧，舌紅口干等症，治宜清余熱，養陰津，用竹葉石膏湯等方。

i.因膽虛而致者，膽虛不得眠。

j.肝火不得臥。

k.內傷不得臥：指某些內傷病引起的失眠。《症因脈治》具述肝火，膽火，肺壅，胃不和，心血虛，心氣虛等病症。其中除肺壅不得臥，系指喘咳倚肩，臥下氣逆，屬于喘証范圍外，其他五種原因所引起的不得臥，均屬于內傷。

l.心氣不寧：泛指心神不安、心悸易驚、心煩不寐等症狀。可因勞神過度，或心血不足，或因驚恐損及心氣，多兼見神疲怠倦，舌嫩，脈虛或促、結、代等虛証。若因濕痰、瘀血或水氣凌心，則兼見濕痰、瘀血的舌脈及水氣過盛之証脈。

m.血虛眩暈《症因脈治》卷二：指陰血虧損所致的眩暈。多因失血，熱病灼傷營血，虛火熾盛或心脾氣虛等引起。眩暈而見五心煩熱，不寐，盜汗，形體消瘦，舌質紅，脈細者屬陰虛；如見面色白，神疲乏力，心悸，納少者屬心脾兩虛。治宜滋陰養血或益氣生血。用當歸補血湯、知柏四物湯、歸脾湯等方。

(2)EBM STUDY:

a.J Sleep Res. 2004 Sep;13(3):269-77

Sleep disorders in Taiwanese children with attention deficit/hyperactivity disorder.

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●Li HY,

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To assess obstructive sleep apnea syndrome (OSAS) and periodic limb movement disorder (PLMD) in children with attention deficit/hyperactivity disorder (ADHD) compared with a control group. The ADHD was diagnosed based on Diagnostic and Statistical Manual, version IV (DSM-IV) criteria on successively seen elementary school children aged 6-12 years referred to a psychiatric clinic for suspected ADHD. A standardized interview (Kiddie-SADS-E), parents and teacher questionnaires, neuropsychological testing, and nocturnal polysomnography were completed for each child. Eighty-eight children (77 boys) with ADHD and 27 controls were involved in the study. Fifty children with ADHD (56.8%) had an apnea-hypopnea index (AHI) >1 event h(-1) and 17 (19.3%) had an AHI >5 event h(-1). Nine children (10.2%) had a periodic limb movement index (PLMI) >5 events h(-1). There is one child with AHI >1 and none with a PLMI > 5 in the control group. In the test of variables of attention (TOVA), the response time was significantly worse in ADHD with sleep disorders than those without them. The child behavior checklist (CBCL) showed a significant difference between groups in the hyperactivity subscale. The diagnostic criteria for ADHD based on DSM-IV do not differentiate between children with or without sleep disorders. Evaluation of sleep disorders should be considered before starting drug treatment for ADHD.

b.Sleep. 2005 Nov 1;28(11):1437-45.

Actigraphic and parent reports of sleep patterns and sleep disorders in children with subtypes of attention-deficit hyperactivity disorder.

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STUDY OBJECTIVE: To describe parent-reported and actigraphically assessed sleep patterns and sleep disorders in stimulant-medication-free children with attention-deficit/hyperactivity disorder (ADHD), divided according to ADHD subtype. PARTICIPANTS: Seventy-one stimulant-medication-free children with a clinical diagnosis of

ADHD (8 girls; mean 8.8 years (SD 2.6), range 3-15 years) recruited from child psychiatry clinics. MEASUREMENTS: ADHD: ADHD Rating Scale DSM IV- Home Version to subdivide children into those with predominantly attention deficit, mainly hyperactivity, and those with both aspects equally. Sleep: Parent-completed sleep diary, clinical history, and 5 nights of actigraphy. RESULTS: Parents reported a wide range of frequently occurring sleep disturbances in their children. However, the objective sleep patterns were not abnormal and did not differ between the ADHD subtypes, and objective sleep patterns did not predict ADHD severity. There was poor correspondence between parent report and actigraphy. Careful clinical consideration of each case suggested that sleep disorders may be widespread in this group of children; only 8 of the 71 children had no discernable likely sleep disorder. Symptoms of sleep-disordered breathing, sleeplessness and reports of restless legs featured prominently. CONCLUSIONS: Parents of children with ADHD may not be accurate reporters of their children's sleep pattern and/or the sleep disturbances that come to parents' attention are not best detected by actigraphy. Results highlight the prominence of parent-reported sleep disturbance in children with ADHD and the need for clinicians to routinely screen for the presence of sleep disorders and assess detailed sleep physiology where indicated.

c.Sleep Med Rev. 2004 Oct;8(5):379-402.

Sleep in children with attention-deficit hyperactivity disorder (ADHD): a review of naturalistic and stimulant intervention studies.

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Attention-Deficit Hyperactivity Disorder (ADHD) is the most common behavioral disorder of childhood. Multiple clinical and research reports suggest extensive sleep disturbances in children with ADHD, however, current data is contradictory. This paper reviewed 47 research studies (13 stimulant intervention and 34 naturalistic) on ADHD that were published since 1980. The main objectives of this review were to provide pediatric clinicians and researchers a clear and concise summary of published sleep data in children with ADHD, to provide a more accurate description of the current knowledge of the relationship between sleep and ADHD, and to

provide current information on the effect of stimulant medication on sleep. Twenty-five of the reviewed studies used subjective reports of sleep, six were actigraphic studies, and 16 were overnight polysomnographic sleep studies (two of which also included Multiple Sleep Latency Tests). All participants were between the age of 3 and 19, and 60% were male. The results indicate high rates of parental reports of sleep disturbances in medicated and unmedicated children with ADHD, however, the majority of these findings have not been confirmed by objective sleep data. Although, agreement among objective studies is not absolute, the data suggest increased nighttime activity, reduced rapid eye movement sleep, and significant daytime somnolence in unmedicated children with ADHD when compared to controls. Data also suggest a possible increased prevalence of periodic limb movements in sleep in children with ADHD, however, little differences in sleep-disordered breathing. The limited number of studies, small and heterogeneous samples, and other methodological limitations make definite results difficult to determine. Future research will need to further clarify the relationship between sleep and ADHD and the effects of stimulants on sleep of children with ADHD

d.Sleep. 2004 Mar 15;27(2):261-6.

Comment in:

Sleep. 2004 Mar 15;27(2):188-9.

Sleep disorders and daytime sleepiness in children with attention-deficit/hyperactive disorder.

- Golan N,
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STUDY OBJECTIVES: Children with attention-deficit/hyperactive disorder (ADHD), in spite of being hyperactive, still benefit from treatment with stimulant medications. We hypothesized that children with ADHD are in fact sleepy during the day, and we sought to test it objectively. DESIGN: Single blind comparative study SETTING: University medical center PARTICIPANTS: Thirty-four children with a previous diagnosis of ADHD (mean age +/- SD, 12.4 +/- 4.6 years) and 32 matched controls (mean age, 12.0 +/- 3.6 years). INTERVENTIONS: N/A. MEASUREMENTS: All participants

underwent a full-night polysomnographic study followed by a multiple sleep latency test (MSLT). RESULTS: Sleep latency, total sleep time, and sleep efficiency were comparable between the groups, yet children with ADHD were significantly sleepier during the day than those in the control group (mean MSLT score of 21.9 +/- 5.5 minutes versus 27.9 +/- 2.0 minutes, P < .005). Of the children with ADHD, 17 (50%) had signs of sleep-disordered breathing, compared with 7 of the control group (22%, P < .05). Five of the ADHD group had periodic limb movements during sleep (15%) versus none in the control group. Children without sleep-disordered breathing or periodic limb movements during sleep had the lowest nocturnal sleep efficiency and total sleep time. CONCLUSIONS: We conclude that children with ADHD demonstrate objective daytime somnolence, which may explain the beneficial effects of treatment with stimulant medications. Primary sleep disorders, especially sleep-disordered breathing and periodic limb movement disorder, should be looked for in children with ADHD.

e.J Sleep Res. 2004 Sep;13(3):269-77. Full Text at Blackwell Synergy Links

Sleep disorders in Taiwanese children with attention deficit/hyperactivity disorder.

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- Chen NH,
- Li HY,
- Wu YY,
- Chao CC,
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To assess obstructive sleep apnea syndrome (OSAS) and periodic limb movement disorder (PLMD) in children with attention deficit/hyperactivity disorder (ADHD) compared with a control group. The ADHD was diagnosed based on Diagnostic and Statistical Manual, version IV (DSM-IV) criteria on successively seen elementary school children aged 6-12 years referred to a psychiatric clinic for suspected ADHD. A standardized interview (Kiddie-SADS-E), parents and teacher questionnaires, neuropsychological testing, and nocturnal polysomnography were completed for each child. Eighty-eight children (77 boys) with ADHD and 27 controls were involved in the study. Fifty children with ADHD (56.8%) had an apnea-hypopnea index (AHI) >1 event h(-1) and 17 (19.3%) had an AHI >5 event h(-1). Nine children (10.2%) had a periodic

limb movement index (PLMI) >5 events h(-1). There is one child with AHI >1 and none with a PLMI > 5 in the control group. In the test of variables of attention (TOVA), the response time was significantly worse in ADHD with sleep disorders than those without them. The child behavior checklist (CBCL) showed a significant difference between groups in the hyperactivity subscale. The diagnostic criteria for ADHD based on DSM-IV do not differentiate between children with or without sleep disorders. Evaluation of sleep disorders should be considered before starting drug treatment for ADHD.

3.睡眠中抽搐：

(1)中醫辨證：

驚風八候《古今醫統》：八候，是驚風臨床証候的概括。搐，即手臂伸縮；搦，即十指開合；掣，即肩頭相扑；顫，即手足動搖震顫；反，即身向后仰；引，即手若開弓；竄，即兩目發直；視，即眼露白睛而不靈活。總稱為搐、搦、掣、顫、反、引、竄、視八候。由于驚風有急慢之分，病情有輕有重，病程有久有暫，因而在証候的表現上有所不同，不一定八候俱備。有的只是手足抽動，并無身體強直或角弓反張等現象；有的發作時間較短，有的發作時間較長。臨床應參照其他各種病情，進行分析。

(2)EBM STUDY

a.Mov Disord. 1999 Nov;14(6):1000-7.

Further studies on periodic limb movement disorder and restless legs syndrome in children with attention-deficit hyperactivity disorder.

- Picchietti DL,
- Underwood DJ,
- Farris WA,
- Walters AS,
- Shah MM,
- Dahl RE,
- Trubnick LJ,
- Bertocci MA,
- Wagner M,
- Hening WA.

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Fourteen consecutive children who were newly diagnosed with attention-deficit hyperactivity disorder (ADHD) and who had never been exposed to stimulants and 10 control children without ADHD underwent polysomnographic studies to

quantify Periodic Limb Movements in Sleep (PLMS) and arousals. Parents commonly gave both false-negative and false-positive reports of PLMS in their children, and a sleep study was necessary to confirm their presence or absence. The prevalence of PLMS on polysomnography was higher in the children with ADHD than in the control subjects. Nine of 14 (64%) children with ADHD had PLMS at a rate of >5 per hour of sleep compared with none of the control children ($p < 0.0015$). Three of 14 children with ADHD (21%) had PLMS at a rate of >20 per hour of sleep. Many of the PLMS in the children with ADHD were associated with arousals. Historical sleep times were less for children with ADHD. The children with ADHD who had PLMS chronically got 43 minutes less sleep at home than the control subjects ($p = 0.0091$). All nine children with ADHD who had a PLMS index of >5 per hour of sleep had a long-standing clinical history of sleep onset problems (>30 minutes) and/or maintenance problems (more than two full awakenings nightly) thus meeting the criteria for Periodic Limb Movement Disorder (PLMD). None of the control children had a clinical history of sleep onset or maintenance problems. The parents of the children with ADHD were more likely to have restless legs syndrome (RLS) than the parents of the control children. Twenty-five of 28 biologic parents of the children with ADHD and all of the biologic parents of the control children were reached for interview. Eight of twenty-five parents of the children with ADHD (32%) had symptoms of RLS as opposed to none of the control parents ($p = 0.011$). PLMS may directly lead to symptoms of ADHD through the mechanism of sleep disruption. Alternative explanations for the association between ADHD and RLS/PLMS are that they are genetically linked, they share a common dopaminergic deficit, or both.

b.Sleep. 2002 Mar 15;25(2):213-8.

Associations between symptoms of inattention, hyperactivity, restless legs, and periodic leg movements.

- Chervin RD,
- Archbold KH,
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- Pituch KJ,
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STUDY OBJECTIVES: Attention-deficit/hyperactivity disorder (ADHD) has shown associations with restless legs syndrome (RLS) and periodic leg movements during sleep (PLMS) among small samples of referred children, but whether RLS or PLMS are common more generally among hyperactive children has not been well studied. DESIGN: Cross-sectional survey. SETTING: Two university-affiliated but community-based general pediatrics clinics. PATIENTS: N=866 children (469 boys), aged 2.0 to 13.9 years (mean 6.8+/-3.2 years), with clinic appointments. INTERVENTIONS: N/A. MEASUREMENTS: A validated Pediatric Sleep Questionnaire assessed for PLMS (a 6-item subscale), restless legs, growing pains, and several potential confounds of an association between behavior and PLMS or RLS. Parents also completed two common behavioral measures, a DSM-IV-derived inattention/hyperactivity scale (IHS) and the hyperactivity index (HI, expressed as a t-score) of the Conners' Parent Rating Scale. RESULTS: Restless legs were reported in 17% (95% C.I. [15, 20]) of the subjects. Positive HI scores (>60) were found in 13% [11, 16] of all subjects, 18% [12, 25] of children with restless legs, and 11% [9, 14] of children without restless legs (chi-square $p<0.05$). Odds ratios between HI>60 and each of the following were: a one-s.d. increase in the overall PLMS score, 1.6 [1.4, 1.9]; restless legs, 1.9 [1.1, 3.2]; and growing pains, 1.9 [0.9, 3.6] (all age and sex-adjusted). Results were similar for high IHS scores (>1.25). The associations between each behavioral measure and the PLMS score retained significance after statistical adjustment for sleepiness, snoring, restless sleep in general, or stimulant use. CONCLUSIONS: Inattention and hyperactivity among general pediatric patients are associated with symptoms of PLMS and RLS. If either condition contributes to hyperactivity, the magnitude of association suggests an important public health problem.

c.J Atten Disord. 2004 May;7(4):205-16.

The effects of yoga on the attention and behavior of boys with Attention-Deficit/ hyperactivity Disorder (ADHD).

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Boys diagnosed with ADHD by specialist pediatricians and stabilized on medication were randomly assigned to a 20-session yoga group (n = 11) or a control group (cooperative activities; n

= 8). Boys were assessed pre- and post-intervention on the Conners' Parent and Teacher Rating Scales-Revised: Long (CPRS-R:L & CTRS-R:L; Conners, 1997), the Test of Variables of Attention (TOVA; Greenberg, Cormna, & Kindschi, 1997), and the Motion Logger Actigraph. Data were analyzed using one-way repeated measures analysis of variance (ANOVA). Significant improvements from pre-test to post-test were found for the yoga, but not for the control group on five subscales of the Conners' Parents Rating Scales (CPRS): Oppositional, Global Index Emotional Lability, Global Index Total, Global Index Restless/Impulsive and ADHD Index. Significant improvements from pre-test to post-test were found for the control group, but not the yoga group on three CPRS subscales: Hyperactivity, Anxious/Shy, and Social Problems. Both groups improved significantly on CPRS Perfectionism, DSM-IV Hyperactive/ Impulsive, and DSM-IV Total. For the yoga group, positive change from pre- to post-test on the Conners' Teacher Rating Scales (CTRS) was associated with the number of sessions attended on the DSM-IV Hyperactive-Impulsive subscale and with a trend on DSM-IV Inattentive subscale. Those in the yoga group who engaged in more home practice showed a significant improvement on TOVA Response Time Variability with a trend on the ADHD score, and greater improvements on the CTRS Global Emotional Lability subscale. Results from the Motion Logger Actigraph were inconclusive. Although these data do not provide strong support for the use of yoga for ADHD, partly because the study was under-powered, they do suggest that yoga may have merit as a complementary treatment for boys with ADHD already stabilized on medication, particularly for its evening effect when medication effects are absent. Yoga remains an investigational treatment, but this study supports further research into its possible uses for this population. These findings need to be replicated on larger groups with a more intensive supervised practice program.

d.Mov Disord. 1999 Nov;14(6):1000-7.

Further studies on periodic limb movement disorder and restless legs syndrome in children with attention-deficit hyperactivity disorder.

- Picchietti DL,
- Underwood DJ,
- Farris WA,
- Walters AS,
- Shah MM,
- Dahl RE,
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●Bertocci MA,
●Wagner M,
●Hening WA.

Pediatric Neurology, Carle Clinic, Urbana, Illinois, USA.

Fourteen consecutive children who were newly diagnosed with attention-deficit hyperactivity disorder (ADHD) and who had never been exposed to stimulants and 10 control children without ADHD underwent polysomnographic studies to quantify Periodic Limb Movements in Sleep (PLMS) and arousals. Parents commonly gave both false-negative and false-positive reports of PLMS in their children, and a sleep study was necessary to confirm their presence or absence. The prevalence of PLMS on polysomnography was higher in the children with ADHD than in the control subjects. Nine of 14 (64%) children with ADHD had PLMS at a rate of >5 per hour of sleep compared with none of the control children ($p < 0.0015$). Three of 14 children with ADHD (21%) had PLMS at a rate of >20 per hour of sleep. Many of the PLMS in the children with ADHD were associated with arousals. Historical sleep times were less for children with ADHD. The children with ADHD who had PLMS chronically got 43 minutes less sleep at home than the control subjects ($p = 0.0091$). All nine children with ADHD who had a PLMS index of >5 per hour of sleep had a long-standing clinical history of sleep onset problems (>30 minutes) and/or maintenance problems (more than two full awakenings nightly) thus meeting the criteria for Periodic Limb Movement Disorder (PLMD). None of the control children had a clinical history of sleep onset or maintenance problems. The parents of the children with ADHD were more likely to have restless legs syndrome (RLS) than the parents of the control children. Twenty-five of 28 biologic parents of the children with ADHD and all of the biologic parents of the control children were reached for interview. Eight of twenty-five parents of the children with ADHD (32%) had symptoms of RLS as opposed to none of the control parents ($p = 0.011$). PLMS may directly lead to symptoms of ADHD through the mechanism of sleep disruption. Alternative explanations for the association between ADHD and RLS/PLMS are that they are genetically linked, they share a common dopaminergic deficit, or both.

e.Pediatrics. 2003 Mar;111(3):554-63. Full Text FREE Pediatrics Links

Comment in:

Pediatrics. 2004 Jan;113(1 Pt 1):174-5; author reply 174-5.

Sleep and neurobehavioral characteristics of 5- to 7-year-old children with parentally reported symptoms of attention-deficit/hyperactivity disorder.

●O'Brien LM,
●Holbrook CR,
●Mervis CB,
●Klaus CJ,
●Bruner JL,
●Raffield TJ,
●Rutherford J,
●Mehl RC,
●Wang M,
●Tuell A,
●Hume BC,
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OBJECTIVES: This study examined the hypothesis that domains of neurobehavioral function would be selectively affected by sleep-disordered breathing (SDB). Therefore, we assessed potential relationships between objectively measured sleep disturbances and neurobehavioral function in children with reported symptoms of attention-deficit/hyperactivity disorder (ADHD) and also determined the incidence of snoring and other sleep problems in 5- to 7-year-old children in the local community and potential relationships to parental snoring and passive smoking. METHODS: Parents of 5- to 7-year-old children in public schools were surveyed about their child's sleeping habits using a validated questionnaire. The questionnaire also asked whether they believed their child to be hyperactive or have ADHD. Children with reported symptoms of ADHD and control children were randomly selected and invited to the Sleep Medicine Center for an overnight polysomnographic assessment and a battery of neurocognitive tests. RESULTS: The questionnaire response rate was 47.6% (n = 5728). Frequent and loud snoring was reported for 673 children (11.7%). Similarly, 418 (7.3%) children were reported to have hyperactivity/ADHD, 313 (76.5%) of which were boys. Eighty-three children with parentally reported symptoms of ADHD were invited for full evaluation at the Sleep Medicine Center together with 34 control children. After assessment with the Conners' Parent Rating Scale, 44 children were designated as having "significant" symptoms of ADHD, 27 as "mild," and 39

designated as "none" (controls). Overnight polysomnography indicated that obstructive sleep apnea was present in 5% of those with significant ADHD symptoms, 26% of those with mild symptoms, and 5% of those with no symptoms. In the cohort, no sleep variable accounted for more than a negligible proportion of the variance in domains of neurobehavioral function. CONCLUSIONS:An unusually high prevalence of snoring was identified among a group of children designated as showing mild symptoms of ADHD based on the Conners' ADHD index identified from a community sample. However, whereas SDB is not more likely to occur among children with significant ADHD symptoms, it is significantly highly prevalent among children with mild hyperactive behaviors. Sleep studies further revealed that rapid eye movement disturbances are more likely to occur in children with significant symptoms, and they seem to impose significant but mild effects on daytime neurobehavioral functioning. We conclude that in children with significant symptoms of ADHD, the prevalence of SDB is not different from that of the general pediatric population and that rapid eye movement sleep in these children is disturbed and may contribute to the severity of their behavioral manifestations. Furthermore, SDB can lead to mild ADHD-like behaviors that can be readily misperceived and potentially delay the diagnosis and appropriate treatment.

4.流汗：

(1)中醫辨證：

自汗《傷寒論．辨太陽病脈証并治》。《三因方》認為：“無問昏醒，浸浸自出者，名曰自汗”。可因氣虛、陽虛、血虛、痰阻、傷濕等因素所致。詳見氣虛自汗、陽虛自汗、血虛自汗、痰症自汗、傷濕自汗等條。此外，傷風、中暑、傷寒、溫病、柔痙、霍亂等多種病症均可見自汗。

a.心陰虛：心火內擾，出現盜汗、虛煩，低熱、心悸、健忘、失眠多夢，舌質嫩紅、苔少，脈細弱而數等症。

b.心陽虛：衛陽不固，出現自汗，怕冷、面色蒼白。

c.心氣虛弱不能收斂，可出現心神浮越、精神散亂、健忘易驚、心悸、自汗或動則汗出等証候。但不會好動。

d.傷濕自汗《三因極一病証方論．自汗証治》：多由濕邪阻遏所致。症見自汗惡風，聲音重濁，身重體倦，關節疼痛，天陰轉甚。治宜健脾益氣，則濕自去。可用防己黃芪湯、羌活勝濕湯等方。也有脾胃濕熱熏蒸而熱勝濕者，治宜清熱去火，則濕自清，方用當歸六黃湯、黃芩芍藥湯等加減。

e.血虛自汗：自汗本屬氣虛所致，但血虛往往氣也虛。治宜滋陰補血為主。可用四物湯加參。血虛有熱者，用當歸六黃湯。大失血之后，汗多不止，恐氣隨血脫，急宜補氣，用獨參湯，繼用補血之劑。

f.陽虛自汗《赤水玄珠．汗門》：由于陽虛表疏，腠理不密，故汗液易泄。症見畏寒，汗出覺冷，倦怠，脈細。治宜溫陽固表。可用玉屏風散、附湯等。

g.肝熱自汗《証治匯補》。因肝熱所致。常兼見口苦多眠。治宜清肝斂汗。用逍遙散加減。

h.傷風咳嗽《症因脈治》卷二：又名風嗽。因風邪傷肺所致。症見惡風自汗，或惡寒發熱，鼻塞流涕，聲重，喉痒咳嗽，脈浮。治宜疏風，宣肺，化痰止咳。用羌活湯（《症因脈治》：羌活、防風、荊芥、桔梗、甘草、柴胡、前胡）、蘇子杏仁湯（《症因脈治》：蘇子、杏仁、桔梗、枳殼、防風、半夏、栝蔞霜）、橘蘇散（《赤水玄珠》：陳皮、蘇葉、杏仁、五味子、半夏、桑白皮、貝母、白朮、甘草、姜）、金沸草散等方。

i.肺腎兩虛：泛指肺腎兩臟同時出現的虛証。有肺腎陰虛與肺氣虛、腎陽虛之別，多屬久病耗損肺腎兩臟所致。肺氣虛、腎陽虛，可見咳嗽、氣短、自汗、畏寒、肢冷，或見浮腫。肺腎陰虛，可見咳嗽、盜汗、五心煩熱、潮熱、夢遺等症。

j.疰夏又作注夏《丹溪心法》：因有明顯的季節性，每于夏令發病，故名。多由脾胃虛弱或氣陰不足，不能適應夏令炎熱所致。患者常于春夏之交忽發眩暈，頭疼身倦，腳軟，體熱食少，頻欲呵欠，心煩自汗等。治宜益氣陰，解暑熱。用白虎加人參湯，補中益氣湯去柴胡、升麻，加白芍、黃柏等。勞病之一。《雜病源流犀燭》：“勞之為病，其脈浮，又手足煩熱，寒精自出，腳酸削不能行，小腹虛滿，春夏劇，秋冬瘥，謂之疰夏病”。

k.營衛不和《傷寒論．太陽病篇》：一般指表証自汗的病理而言。包括：衛弱營強，因衛氣虛弱，汗液自行溢出，症見身不發熱而時有自汗。衛強營弱，因陽氣郁于肌表，內迫營陰而汗自出，症見時發熱而自汗，不發熱則無汗。

l.虛癆《証治匯補》：多因正虛體弱，又感癆邪，或因久癆不愈，使元氣虧耗所致。症見寒熱不甚，四肢乏力，飲食減少，自汗不止，脈虛軟等。治宜養正補虛為主，用人參養胃湯（《雜

病源流犀燭》：人參、白朮、橘紅、半夏曲、丁香、木香、藿香、神曲、麥芽、茯苓、砂仁、厚朴、蓮肉、甘草）、六君子湯、補中益氣湯、何人飲等方加減。或用補截兼施，如四獸飲、沈氏截瘧飲（《沈氏尊生書》：黃耆、白朮、人參、茯苓、砂仁、草果、橘紅、五味子、甘草、烏梅）之類。

m.虛損《肘后方》：因七情、勞倦、飲食、酒色所傷，或病后失于調理，以致陰陽、氣血、臟腑虛損而成。虛損病情復雜，主要可概括為氣虛、血虛、陽虛、陰虛。氣虛多見肺脾虛損。症見四肢無力，懶于言語，動輒氣短，自汗心煩。宜用補中益氣湯。血虛多見心肝虛損。症見吐血便血，或婦女崩漏，頭暈眼花，或成干血癆。宜用四物湯、當歸補血湯。虛在心者，并用歸脾湯。虛在肝者，并用二至丸。內有瘀血者，用大黃蠐虫丸。陽虛多見脾腎虛損，症見飲食減少，大便溏薄，或完谷不化，腰膝酸軟，神疲無力，畏寒肢冷，陽萎滑精，小便數而清長，面色蒼白，舌淡苔白，脈沉細或沉遲，治宜溫補。虛在脾者，可用附子理中湯；虛在腎者，可用桂附八味丸、右歸丸等方。陰虛多見肺腎虛損。肺陰虛者，症見干咳，咯血，口干咽燥，潮熱，盜汗，兩顴潮紅，舌紅少津，脈細數，治宜養陰清肺，可用沙參麥冬湯加減。腎陰虛者，症見腰膝酸軟，頭暈耳鳴，遺精早泄，咽痛，顴紅，舌紅少津，脈沉細數。治宜滋補真陰，兼予降火。可用大補元煎、六味丸、大補陰丸等方。參見虛勞條。本証可見于結核病、貧血、白血病、神經官能症以及多種慢性消耗性病証。

n.虛：痙病的一種《証治匯補》。因氣血虛極不能養筋所致，或見于大量失血之后。症見四肢搐搦，頭昏目花，自汗，神疲，氣短，舌質淡，脈細弦。治宜益氣補血，兼予息風。用當歸補血湯、八珍湯、大營煎（《類証治裁》：熟地、當歸、枸杞子、杜仲、牛膝、肉桂、炙草）等方，加息風藥如鉤藤、蠍尾等。

o.暑溫《溫病條辨》：指感受暑熱之邪而發生的一種急性熱病。主症為壯熱，自汗，口渴，面赤，少氣，右脈大等，病情多變。治宜清暑泄熱，益氣陰，斂津液。方用白虎湯、白虎加人參湯、王氏清暑益氣湯、生脈散等。如見昏迷、抽搐、角弓反張等，治療參見暑痫條。本病可見于流行性乙型腦炎等病。

p.暑濕眩暈《症因脈治》：指暑令感受濕邪所致的眩暈。有濕

熱眩暈與寒濕眩暈之分。濕熱眩暈，症見頭昏目眩，身熱自汗，面垢背寒，煩渴引飲，脈虛數，治宜清暑化濕，用人參白虎湯、黃連香薷飲等方。寒濕眩暈，症見頭暈，惡寒，身重且痛，轉側不利，脈虛緩，治宜化濕散寒，用羌活勝濕湯合朮附湯。感冒頭痛病証名。見《丹溪心法》。因外感風邪所致。症見頭痛鼻塞聲重，自汗惡風，脈浮緩等。治宜祛風解表。可用芎芷香蘇散（吳克潛《古今醫方集成》：川芎、白芷、陳皮、香附、蘇葉、蒼朮、甘草）、十味芎蘇飲等方。感冒風邪，往往挾寒、挾熱、挾濕，詳風寒頭痛、風熱頭痛、風濕頭痛

q.痰症自汗《証治匯補》卷三：因痰濁內阻，陽氣不通所致。症見自汗頭暈，胸悶惡心，嘔吐痰涎。治宜調中化痰。可用撫芎湯（《丹溪心法》：撫芎、白朮、橘紅、炙甘草）、理氣降痰湯（《証治匯補》：桔梗、枳殼、橘紅、茯苓、香附、貝母、桂枝）。

r.精氣奪則虛《素問．通評虛實論》：精氣，指人體的正氣。疾病過程中，正氣過度耗損，則表現為虛証。証見面色蒼白、神疲體倦、心悸氣短、自汗盜汗、脈細弱無力等。

(2)EBM STUDY: Citation 1.

Link to...

Unique Identifier

3684394

Authors

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Title

Sleep disturbance in preschool-aged hyperactive and nonhyperactive children.

Source

Pediatrics. 80(6):839-44, 1987 Dec.

Abstract

In spite of inadequate laboratory demonstrations of sleep problems in children with attention deficit disorder with hyperactivity, the belief persists that such problems exist. Sleep restlessness is, in fact, one of the criteria in the Diagnostic and Statistical Manual of Mental Disorders, ed 3, definition of attention deficit disorder with hyperactivity, and sleep problems are listed on two major checklists often used for describing the

symptoms of this disorder. In a series of three studies, sleep problems were investigated in preschool-aged children with attention deficit disorder relative to control children without the disorder. Results of the first two studies demonstrated clearly that parents of hyperactive children considered their children to have many more sleep problems than did parents of the control children. Parental daily documentation, which is less likely to be affected by reporting bias, was used in the third study. Although the results of the third study supported the finding of increased frequency of night wakings in these children, there was no difference in total sleep time or sleep onset latency between the two groups. Two other significant group differences (enuresis and night sweats) were primarily due to subgroups of children with attention deficit disorder and hyperactivity. The greater number of sleep wakings, which disrupt parents' sleep, may be responsible for the clinical reports that these children are poor sleepers.

a.夜尿 Baeyens D. Roeyers H. Hoebeke P. Verte S. Van Hoecke E. Walle JV.

Institution

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Title

Attention deficit/hyperactivity disorder in children with nocturnal enuresis.

Source

Journal of Urology. 171(6 Pt 2):2576-9, 2004 Jun.

Abstract

PURPOSE: Although the relationship between enuresis and psychopathology has been studied intensively, little is known about the prevalence of specific psychiatric disorders. We investigate the prevalence of attention deficit/hyperactivity disorder (ADHD) in children with nocturnal enuresis and correlate these data with clinical subtypes of enuresis/incontinence. MATERIALS AND METHODS: A total of 120 children with nocturnal enuresis 6 to 12 years old participated in a prevalence study. A diagnostic interview was conducted with parents, questionnaires were completed by parents and teachers, and medical files were consulted. RESULTS: Of all enuretic children 15% were diagnosed with the full syndrome of ADHD and 22.5% met the criteria of the ADHD inattentive subtype. Data revealed that the older the children (9 to 12 years), the higher prevalence of attention deficit disorder or ADHD. Nocturnal polyuria had a significantly higher incidence in hyperactive/impulsive children but there was no significant

difference in bladder function between enuretic children with or without a comorbid diagnosis of ADHD. CONCLUSIONS: The prevalence of attention deficit disorder or ADHD in nocturnal enuresis is significantly increased, especially in older children. The incidence of nocturnal polyuria is slightly increased in children who meet at least the criteria of ADHD hyperactive/impulsive subtype. No other associations between enuresis and ADHD were found.

b.O'Brien LM. Gozal D. Obtaining a detailed family history for attention-deficit
hyperactivity disorder is important. [Case Reports. Journal Article] *Paediatric Respiratory Reviews. 3(1):90, 93, 2002 Mar.*

c.Stein MT. Alagiri M. Kohen DP. Diurnal and nocturnal enuresis in a 6 year old. [Case Reports. Journal Article] *Journal of Developmental & Behavioral Pediatrics. 22(2 Suppl):S147-50, 2001 Apr.*

d.Authors
Bailey JN. Ornitz EM. Gehricke JG. Gabikian P. Russell AT. Smalley SL.

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Title
Transmission of primary nocturnal enuresis and attention deficit hyperactivity disorder.[see comment].

Comments
Comment in: Acta Paediatr. 1999 Dec;88(12):1315-7; PMID: 10626513

Source
Acta Paediatrica. 88(12):1364-8, 1999 Dec.

Abstract
Primary nocturnal enuresis (PNE) is a prevalent disorder among children with a complex mode of inheritance. Family, twin, and linkage studies have provided evidence that genetic factors underlie the familiality of PNE. Linkage investigations support the hypothesis that PNE is heterogeneous, and the genetic heterogeneity may be reflected in co-morbid clinical conditions such as attention deficit hyperactivity disorder (ADHD). This study used a family study method and examined the transmission of PNE in relatives of PNE and control probands with and without ADHD, to determine if these disorders co-occur due to common genetic susceptibilities or other, i.e. non-genetic, reasons. This study concluded that the pattern of inheritance found is

consistent with the independent transmission of PNE and ADHD.

Authors

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Title

Enuresis in children with attention-deficit hyperactivity disorder.

Source

Southern Medical Journal. 90(5):503-5, 1997 May.

Abstract

We did a retrospective study of the prevalence of nocturnal and diurnal enuresis in patients with attention-deficit hyperactivity disorder (ADHD). Patients with ADHD were identified at a referral center for developmental pediatrics. Control patients were identified at a general pediatric and pediatric allergy clinic. Adjusting for differences in sex and current age, ADHD children at age 6 were 2.7 times more likely than controls to have nocturnal enuresis and 4.5 times more likely to have diurnal enuresis. Results at children's current age were consistent with results at age 6; however, these differences were not statistically significant. Nocturnal and diurnal enuresis was found to be significantly more common in children with ADHD than in control subjects. Physicians who treat patients with ADHD should routinely inquire about the presence of enuresis.

Authors

Biederman J. Santangelo SL. Faraone SV. Kiely K. Guite J. Mick E. Reed ED. Kraus I. Jellinek M. Perrin J.

Institution

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Title

Clinical correlates of enuresis in ADHD and non-ADHD children.

Source

Journal of Child Psychology & Psychiatry & Allied Disciplines. 36(5):865-77, 1995 Jul.

Abstract

Enuresis and attention deficit hyperactivity disorder (ADHD) are common childhood disorders that often co-occur. Although each has been linked to neurodevelopmental immaturity and increased risk for psychopathology, the clinical correlates of enuresis remain unclear. Subjects were 140 6-17-year-old boys

with DSM-III-R ADHD and 120 non-ADHD controls. Information on enuresis and psychiatric diagnoses was obtained in a standardized manner blind to the child's clinical status. Our results show that (1) enuresis did not increase the risk for psychopathology in children with or without ADHD; (2) enuresis was not associated with psychosocial adversity or developmental immaturity; (3) enuresis was associated with increased risk for learning disability, impaired intellectual functioning, and impaired school achievement in normal control children but not in children with ADHD; and (4) the same pattern of findings was obtained after stratifying children with enuresis by primary versus secondary and by nocturnal versus diurnal subtypes. These results suggest that the clinical implications of enuresis may differ for ADHD and non-ADHD children.

Authors
Fergusson DM. Horwood LJ.
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Title
Nocturnal enuresis and behavioral problems in adolescence: a 15-year longitudinal study.[erratum appears in Pediatrics 1995 Feb;95(2):243].
Source
Pediatrics. 94(5):662-8, 1994 Nov.
Abstract
OBJECTIVE. This study examines the relationships between nocturnal enuresis in childhood and measures of behavioral adjustment in adolescence using data collected during the course of a 15-year longitudinal study of a birth cohort of New Zealand children. METHOD. Data was collected on patterns of nocturnal bladder control at annual intervals to the age of 13 years. At ages 11, 13, and 15 years measures of conduct problems, attention deficit behaviors, and anxiety/withdrawal were gathered. RESULTS. The analysis showed that children who were bed-wetting after the age of 10 years as a result of either primary or secondary enuresis had increased rates of behavioral problems up to the age of 15 years with these children having mean behavior scores that were between .30 to .65 standard deviations higher than children who ceased bed-wetting before the age of 5 years. Regression analysis indicated that these associations were largely spurious and arose because the age of cessation of bedwetting was correlated with a series of factors (gender, social maturity, childhood IQ, family social background, family stress,

and parental conflict) that were also associated with increased rates of adolescent behavior problems. However, even after adjusting for these factors, children who were bed-wetting after the age of 10 years showed slight increases in rates of conduct problems and attention deficit behaviors up to the age of 13 years and increases rates of anxiety/withdrawal up to the age of 15 years. CONCLUSIONS. It is concluded that bed-wetting after the age of 10 years is associated with small but detectable increases in risks of conduct problems, attention deficit behaviors, and anxiety/withdrawal in early adolescence. These results show that although it is not the case that children showing nocturnal enuresis are at markedly increased risks of serious psychiatric problems, it may be prudent to determine the extent to which children who are bed-wetting after the age of 10 years show increases in anxious or problem behaviors.

5.夜尿：

a.Acta Paediatr. 2005 Nov;94(11):1619-25. MetaPress Links

Attention-deficit/hyperactivity disorder (ADHD) as a risk factor for persistent nocturnal enuresis in children: a two-year follow-up study.

●Baeyens D,
●Roeyers H,
●Demeyere I,
●Verte S,
●Hoebeke P,
●Vande Walle J.

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AIMS: A previous prevalence study indicated that the prevalence of ADHD is highly increased in enuretic children. In the current 2-y follow-up study we investigate the relationship between both disorders further. Our goal is to determine whether the ADHD diagnoses can be reconfirmed and whether children with ADHD are more at risk for difficult-to-cure enuresis. Moreover, we explore the effect of medical enuresis parameters on the course of the voiding problem. METHODS: Eighty-six children with enuresis were screened twice on the presence of ADHD with a 2-y interval. A multi-method, multi-informant assessment of ADHD was used, the child's medical file was consulted, and a parent questionnaire on the child's current voiding problems was completed. RESULTS: Although 73% of all children with a 2-y-old diagnosis of ADHD still meet the disorder's criteria, only 66% of all subtype diagnoses can be reconfirmed. The odds that a child with ADHD still has voiding

problems after 2 y are 3.17 times higher than for a child without ADHD. Although a slightly increased number of prescribed therapies in the ADHD group was noticed, no other significant differences in enuresis treatment methods were found between the groups. The medical parameters were not associated with treatment outcome.CONCLUSION: Since 73% of ADHD diagnoses can be reconfirmed, the data suggest that the prevalence of the ADHD syndrome rather than reactive ADHD symptomatology is increased in enuretic children. Children with ADHD are at risk for persistent enuresis. Two-year-old medical enuresis parameters seem to have little effect on the current presence/absence of enuresis.

PMID: 16303700 [PubMed - indexed for MEDLINE]

- Related Links
- Attention deficit/hyperactivity disorder in children with nocturnal enuresis. [J Urol. 2004] PMID: 15118422
- The prevalence of ADHD in children with enuresis: comparison between a tertiary and non-tertiary care sample. [Acta Paediatr. 2006] PMID: 16497647
- Sleep and neurobehavioral characteristics of 5- to 7-year-old children with parentally reported symptoms of attention-deficit/hyperactivity disorder. [Pediatrics. 2003] PMID: 12612236
- Health-related quality of life in children and adolescents who have a diagnosis of attention-deficit/hyperactivity disorder. [Pediatrics. 2004] PMID: 15520087
- A process for developing community consensus regarding the diagnosis and management of attention-deficit/hyperactivity disorder. [Pediatrics. 2005] PMID: 15629972
- See all Related Articles...

b.J Urol. 2004 Jun;171(6 Pt 2):2576-9. Links

Attention deficit/hyperactivity disorder in children with nocturnal enuresis.

- Baeyens D,
- Roeyers H,
- Hoebeke P,
- Verte S,
- Van Hoecke E,
- Walle JV.

Department of Psychology, Ghent University Hospital, Ghent, Belgium. Dieter.Baeyens@rug.ac.be

PURPOSE: Although the relationship between enuresis and psychopathology has been studied intensively, little is known about the prevalence of specific psychiatric disorders. We

investigate the prevalence of attention deficit/hyperactivity disorder (ADHD) in children with nocturnal enuresis and correlate these data with clinical subtypes of enuresis/incontinence. MATERIALS AND METHODS: A total of 120 children with nocturnal enuresis 6 to 12 years old participated in a prevalence study. A diagnostic interview was conducted with parents, questionnaires were completed by parents and teachers, and medical files were consulted. RESULTS: Of all enuretic children 15% were diagnosed with the full syndrome of ADHD and 22.5% met the criteria of the ADHD inattentive subtype. Data revealed that the older the children (9 to 12 years), the higher prevalence of attention deficit disorder or ADHD. Nocturnal polyuria had a significantly higher incidence in hyperactive/impulsive children but there was no significant difference in bladder function between enuretic children with or without a comorbid diagnosis of ADHD. CONCLUSIONS: The prevalence of attention deficit disorder or ADHD in nocturnal enuresis is significantly increased, especially in older children. The incidence of nocturnal polyuria is slightly increased in children who meet at least the criteria of ADHD hyperactive/impulsive subtype. No other associations between enuresis and ADHD were found.

PMID: 15118422 [PubMed - indexed for MEDLINE]

c.Acta Paediatr. 2005 Nov;94(11):1619-25. MetaPress Links

Attention-deficit/hyperactivity disorder (ADHD) as a risk factor for persistent nocturnal enuresis in children: a two-year follow-up study.

- Baeyens D,
- Roeyers H,
- Demeyere I,
- Verte S,
- Hoebeke P,
- Vande Walle J.

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AIMS: A previous prevalence study indicated that the prevalence of ADHD is highly increased in enuretic children. In the current 2-y follow-up study we investigate the relationship between both disorders further. Our goal is to determine whether the ADHD diagnoses can be reconfirmed and whether children with ADHD are more at risk for difficult-to-cure enuresis. Moreover, we explore the effect of medical enuresis parameters on the course of the voiding problem. METHODS: Eighty-six children with enuresis were screened twice on the presence of

ADHD with a 2-y interval. A multi-method, multi-informant assessment of ADHD was used, the child's medical file was consulted, and a parent questionnaire on the child's current voiding problems was completed. RESULTS: Although 73% of all children with a 2-y-old diagnosis of ADHD still meet the disorder's criteria, only 66% of all subtype diagnoses can be reconfirmed. The odds that a child with ADHD still has voiding problems after 2 y are 3.17 times higher than for a child without ADHD. Although a slightly increased number of prescribed therapies in the ADHD group was noticed, no other significant differences in enuresis treatment methods were found between the groups. The medical parameters were not associated with treatment outcome.CONCLUSION: Since 73% of ADHD diagnoses can be reconfirmed, the data suggest that the prevalence of the ADHD syndrome rather than reactive ADHD symptomatology is increased in enuretic children. Children with ADHD are at risk for persistent enuresis. Two-year-old medical enuresis parameters seem to have little effect on the current presence/absence of enuresis.

d.Acta Paediatr. 2006 Mar;95(3):347-52. MetaPress Links

The prevalence of ADHD in children with enuresis: comparison between a tertiary and non-tertiary care sample.

- Baeyens D,
- Roeyers H,
- D'Haese L,
- Pieters F,
- Hoebeke P,
- Vande Walle J.

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OBJECTIVE: The main aim of the current study was to determine reliable comorbidity rates of ADHD for enuretic children admitted either to non-tertiary care or to a specialized paediatric clinic, i.e. tertiary care, since previous research has failed to incorporate a possible setting effect in this comorbidity; and to use a multi-method multi-informant assessment of ADHD. MATERIAL AND METHODS: Eighty children, aged between 6 and 12 y, admitted to non-tertiary care with enuresis and 120 children referred to tertiary care were screened for the presence of ADHD using a multi-method (diagnostic interview, questionnaires) multi-informant (parents, teachers) assessment. RESULTS: Enuretic children from the tertiary care sample have a 3.4 times increased chance of having comorbid ADHD when compared to children with enuresis admitted to non-tertiary care,

corresponding to a prevalence rate of 28% and 10%, respectively. Overall, the tertiary care sample was older, showed more daytime incontinence and revealed an increasing prevalence of ADHD with older age when compared with the non-tertiary care group. CONCLUSION: The prevalence rate of ADHD is increased in an enuretic population compared to community samples (3-5%). Moreover, enuretic children admitted to tertiary care show significantly higher comorbidity than non-tertiary care patients. The ADHD prevalence in the former group increases with older age, suggesting therapy resistance and a negative prognosis for enuresis in the case of comorbidity.

e.J Urol. 2003 Oct;170(4 Pt 2):1521-3; discussion 1523-4. Links

Comment in:

J Urol. 2004 Jul;172(1):388-9; author reply 389.

A survey of voiding dysfunction in children with attention deficit-hyperactivity disorder.

●Duel BP,
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●Lerner M.

Antoci Center for Pediatric Urology and Nephrology, UC Irvine Medical Center, University of California, Irvine, Orange, 92868, USA.

PURPOSE: Physicians treating attention deficit-hyperactivity disorder (ADHD) have long had the clinical impression that these children suffer disproportionately from voiding dysfunction and incontinence. However, no data exist to confirm this suspicion. In an attempt to investigate this clinical finding, we administered a survey asking about any functional bladder symptoms to a group of children with ADHD and a control group without ADHD. MATERIALS AND METHODS: The Dysfunctional Voiding Symptom Survey (DVSS) was administered to a group of children being treated for rigorously diagnosed ADHD and a control group without ADHD. The DVSS consists of 10 questions that assess daytime incontinence, nocturnal enuresis, constipation, urgency, voiding frequency and dysuria, each scored from 0 to 4 (0-never, 1-almost never, 2-less than half the time, 3-about half the time, 4-almost every time) for a maximum total score of 40 (severest symptoms). Scores for patients and controls were compared for each question and in aggregate. Boys and girls underwent separate statistical analysis. An additional eleventh question assesses recent stressful events within the family. RESULTS: The patient group included 23 boys and 5

girls, and the control group 10 boys and 12 girls. Children with ADHD of both sexes had statistically significant higher overall DVSS scores. Boys had significant differences on several questions. Due to the small number of girls, there were no statistically significant differences on individual questions. CONCLUSIONS: Children with ADHD have significantly higher rates of incontinence, constipation, urgency, infrequent voiding, nocturnal enuresis and dysuria than those without ADHD. Further study is needed to discern the cause of this difference and develop appropriate treatment strategies.
PMID: 14501650 [PubMed - indexed for MEDLINE]

三、台東縣中小學「注意力缺失過動症中西醫自我評估表」問卷調查結果：

(一)單項分析：

以下為單變項分析：描述10647位樣本各項總分的平均值、標準差、和每種分數的人數百分比，還有各項子題的百分比。

表一 各項總分的平均值

Variable	N	Mean	Std Dev	Minimum	Maximum
注意力不足	10647	2.6505119	2.0775532	0	9.0000000
過動－衝動	10647	1.7727998	2.0065973	0	9.0000000
胃熱	10647	1.8203250	0.9619514	0	6.0000000
脾氣虛	10647	0.6817883	0.8252257	0	4.0000000
腎氣不固	10647	0.1011553	0.3346224	0	3.0000000
肝風內動	10647	0.1594815	0.3973896	0	3.0000000

表二

注意力不足	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1561	14.66	1561	14.66
1	2106	19.78	3667	34.44
2	2080	19.54	5747	53.98
3	1771	16.63	7518	70.61
4	1167	10.96	8685	81.57
5	737	6.92	9422	88.49
6	662	6.22	10084	94.71
7	309	2.90	10393	97.61
8	133	1.25	10526	98.86
9	121	1.14	10647	100.00

表三

粗心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3501	32.88	3501	32.88
1	7146	67.12	10647	100.00

表四

注意力難持續	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8736	82.05	8736	82.05
1	1911	17.95	10647	100.00

表五

不專心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8142	76.47	8142	76.47
1	2505	23.53	10647	100.00

表六

無法遵循指示	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9004	84.57	9004	84.57
1	1643	15.43	10647	100.00

表七

組織力差	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8476	79.61	8476	79.61
1	2171	20.39	10647	100.00

表八

逃遁抗拒用腦	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7524	70.67	7524	70.67
1	3123	29.33	10647	100.00

表九

常丟東西	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7585	71.24	7585	71.24
1	3062	28.76	10647	100.00

表十

易分心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6593	61.92	6593	61.92
1	4054	38.08	10647	100.00

表十一

忘例行活動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8042	75.53	8042	75.53
1	2605	24.47	10647	100.00

表十二

過動—衝動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3729	35.02	3729	35.02
1	2278	21.40	6007	56.42
2	1711	16.07	7718	72.49
3	1097	10.30	8815	82.79
4	699	6.57	9514	89.36
5	389	3.65	9903	93.01
6	369	3.47	10272	96.48
7	173	1.62	10445	98.10
8	100	0.94	10545	99.04
9	102	0.96	10647	100.00

表十三

坐立難安	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8314	78.09	8314	78.09
1	2333	21.91	10647	100.00

表十四

無法靜作	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8521	80.03	8521	80.03
1	2126	19.97	10647	100.00

表十五

不分場合跑	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9737	91.45	9737	91.45
1	910	8.55	10647	100.00

表十六

很難安靜	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8801	82.66	8801	82.66
1	1846	17.34	10647	100.00

表十七

動個不停	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9097	85.44	9097	85.44
1	1550	14.56	10647	100.00

表十八

話太多	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6770	63.59	6770	63.59
1	3877	36.41	10647	100.00

表十九

搶答	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8231	77.31	8231	77.31
1	2416	22.69	10647	100.00

表二十

難以等待	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8832	82.95	8832	82.95
1	1815	17.05	10647	100.00

表二十一

常干擾人	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8645	81.20	8645	81.20
1	2002	18.80	10647	100.00

表二十二

胃熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	133	1.25	133	1.25
1	4738	44.50	4871	45.75
2	3455	32.45	8326	78.20
3	1687	15.84	10013	94.05
4	509	4.78	10522	98.83
5	114	1.07	10636	99.90
6	11	0.10	10647	100.00

表二十三

怕熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4327	40.64	4327	40.64
1	6320	59.36	10647	100.00

表二十四

肚子怕熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7923	74.42	7923	74.42
1	2724	25.58	10647	100.00

表二十五

常便秘	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9464	88.89	9464	88.89
1	1183	11.11	10647	100.00

表二十六

手腳流汗	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7085	66.54	7085	66.54
1	3562	33.46	10647	100.00

表二十七

一身大汗	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6468	60.75	6468	60.75
1	4179	39.25	10647	100.00

表二十八

流鼻血	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9234	86.73	9234	86.73
1	1413	13.27	10647	100.00

表二十九

脾氣虛	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5511	51.76	5511	51.76
1	3342	31.39	8853	83.15
2	1483	13.93	10336	97.08
3	293	2.75	10629	99.83
4	18	0.17	10647	100.00

表三十

鼻子怕冷	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6738	63.29	6738	63.29
1	3909	36.71	10647	100.00

表三十一

易氣喘	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9922	93.19	9922	93.19
1	725	6.81	10647	100.00

表三十二

過敏性鼻炎	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8418	79.06	8418	79.06
1	2229	20.94	10647	100.00

表三十三

易腹瀉	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10251	96.28	10251	96.28
1	396	3.72	10647	100.00

表三十四

腎氣不固	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9672	90.84	9672	90.84
1	883	8.29	10555	99.14
2	82	0.77	10637	99.91
3	10	0.09	10647	100.00

表三十五

尿床	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10274	96.50	10274	96.50
1	373	3.50	10647	100.00

表三十六

夜尿	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10043	94.33	10043	94.33
1	604	5.67	10647	100.00

表三十七

尿失禁	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10547	99.06	10547	99.06
1	100	0.94	10647	100.00

表三十八

肝風內動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9072	85.21	9072	85.21
1	1456	13.68	10528	98.88
2	115	1.08	10643	99.96
3	4	0.04	10647	100.00

表三十九

睡覺手腳抽動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9528	89.49	9528	89.49
1	1119	10.51	10647	100.00

表四十

夢游	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10096	94.82	10096	94.82
1	551	5.18	10647	100.00

表四十一

癲癇	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10619	99.74	10619	99.74
1	28	0.26	10647	100.00

(二)單變項分析：

描述10647位樣本各項總分的平均值、標準差、和每種分數的人數百分比，還有各項子題的百分比。

表一　　各項總分的平均值

Variable	N	Mean	Std Dev	Minimum	Maximum
注意力不足	10647	2.6505119	2.0775532	0	9.0000000
過動－衝動	10647	1.7727998	2.0065973	0	9.0000000
胃熱	10647	1.8203250	0.9619514	0	6.0000000
脾氣虛	10647	0.6817883	0.8252257	0	4.0000000
腎氣不固	10647	0.1011553	0.3346224	0	3.0000000
肝風內動	10647	0.1594815	0.3973896	0	3.0000000

表二

注意力不足	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1561	14.66	1561	14.66
1	2106	19.78	3667	34.44
2	2080	19.54	5747	53.98
3	1771	16.63	7518	70.61
4	1167	10.96	8685	81.57
5	737	6.92	9422	88.49
6	662	6.22	10084	94.71
7	309	2.90	10393	97.61
8	133	1.25	10526	98.86
9	121	1.14	10647	100.00

表三

粗心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3501	32.88	3501	32.88
1	7146	67.12	10647	100.00

表四

注意力難持續	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8736	82.05	8736	82.05
1	1911	17.95	10647	100.00

表五

不專心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8142	76.47	8142	76.47
1	2505	23.53	10647	100.00

表六

無法遵循指示	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9004	84.57	9004	84.57
1	1643	15.43	10647	100.00

表七

組織力差	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8476	79.61	8476	79.61
1	2171	20.39	10647	100.00

表八

逃遁抗拒用腦	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7524	70.67	7524	70.67
1	3123	29.33	10647	100.00

表九

常丟東西	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7585	71.24	7585	71.24
1	3062	28.76	10647	100.00

表十

易分心	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6593	61.92	6593	61.92
1	4054	38.08	10647	100.00

表十一

忘例行活動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8042	75.53	8042	75.53
1	2605	24.47	10647	100.00

表十二

過動—衝動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3729	35.02	3729	35.02
1	2278	21.40	6007	56.42
2	1711	16.07	7718	72.49
3	1097	10.30	8815	82.79
4	699	6.57	9514	89.36
5	389	3.65	9903	93.01
6	369	3.47	10272	96.48
7	173	1.62	10445	98.10
8	100	0.94	10545	99.04
9	102	0.96	10647	100.00

表十三

坐立難安	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8314	78.09	8314	78.09
1	2333	21.91	10647	100.00

表十四

無法靜作	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8521	80.03	8521	80.03
1	2126	19.97	10647	100.00

表十五

不分場合跑	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9737	91.45	9737	91.45
1	910	8.55	10647	100.00

表十六

很難安靜	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8801	82.66	8801	82.66
1	1846	17.34	10647	100.00

表十七

動個不停	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9097	85.44	9097	85.44
1	1550	14.56	10647	100.00

表十八

話太多	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6770	63.59	6770	63.59
1	3877	36.41	10647	100.00

表十九

搶答	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8231	77.31	8231	77.31
1	2416	22.69	10647	100.00

表二十

難以等待	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8832	82.95	8832	82.95
1	1815	17.05	10647	100.00

表二十一

常干擾人	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8645	81.20	8645	81.20
1	2002	18.80	10647	100.00

表二十二

胃熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	133	1.25	133	1.25
1	4738	44.50	4871	45.75
2	3455	32.45	8326	78.20
3	1687	15.84	10013	94.05
4	509	4.78	10522	98.83
5	114	1.07	10636	99.90
6	11	0.10	10647	100.00

表二十三

怕熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	4327	40.64	4327	40.64
1	6320	59.36	10647	100.00

表二十四

肚子怕熱	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7923	74.42	7923	74.42
1	2724	25.58	10647	100.00

表二十五

常便秘	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9464	88.89	9464	88.89
1	1183	11.11	10647	100.00

表二十六

手腳流汗	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7085	66.54	7085	66.54
1	3562	33.46	10647	100.00

表二十七

一身大汗	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6468	60.75	6468	60.75
1	4179	39.25	10647	100.00

表二十八

流鼻血	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9234	86.73	9234	86.73
1	1413	13.27	10647	100.00

表二十九

脾氣虛	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	5511	51.76	5511	51.76
1	3342	31.39	8853	83.15
2	1483	13.93	10336	97.08
3	293	2.75	10629	99.83
4	18	0.17	10647	100.00

表三十

鼻子怕冷	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6738	63.29	6738	63.29
1	3909	36.71	10647	100.00

表三十一

易氣喘	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9922	93.19	9922	93.19
1	725	6.81	10647	100.00

表三十二

過敏性鼻炎	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	8418	79.06	8418	79.06
1	2229	20.94	10647	100.00

表三十三

易腹瀉	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10251	96.28	10251	96.28
1	396	3.72	10647	100.00

表三十四

腎氣不固	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9672	90.84	9672	90.84
1	883	8.29	10555	99.14
2	82	0.77	10637	99.91
3	10	0.09	10647	100.00

表三十五

尿床	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10274	96.50	10274	96.50
1	373	3.50	10647	100.00

表三十六

夜尿	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10043	94.33	10043	94.33
1	604	5.67	10647	100.00

表三十七

尿失禁	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10547	99.06	10547	99.06
1	100	0.94	10647	100.00

表三十八

肝風內動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9072	85.21	9072	85.21
1	1456	13.68	10528	98.88
2	115	1.08	10643	99.96
3	4	0.04	10647	100.00

表三十九

睡覺手腳抽動	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	9528	89.49	9528	89.49
1	1119	10.51	10647	100.00

表四十

夢游	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10096	94.82	10096	94.82
1	551	5.18	10647	100.00

表四十一

癲癇	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	10619	99.74	10619	99.74
1	28	0.26	10647	100.00

(三)胃熱若以肚子怕熱、一身大汗、手腳心流汗為標準的統計：

Frequency| Row Pct	三項皆有	至少缺一	Total
+12分	107 16.74	532 83.26	639
-12分	311 3.11	9697 96.89	10008
Total	418	10229	10647

從上表可知10647位樣本中有418(3.9%)有肚子怕熱＋一身大汗＋手腳流汗，若以西醫的標準來看，過動兒中有107位(16.74%)會有此三項，顯著的高於非過動兒(3.11%)。

(四)若西醫評估表統計為十二分的人，胃熱的 correlation：

(1)左側西醫分數　　胃熱分數

Frequency| Row Pct	0	1	2	3	4	5	6	Total
+12分	69 10.80	118 18.47	156 24.41	146 22.85	107 16.74	38 5.95	5 0.78	639
-12分	64 0.64	4620 46.16	3299 32.96	1541 15.40	402 4.02	76 0.76	6 0.06	10008
Total	133	4738	3455	1687	509	114	11	10647

(2)Correlation of胃熱分數&左側西醫分數：r=0.2456, p<0.0001

(3)

左側西醫分數	胃熱分數	p value
≧12分	2.37±1.43	＜0.0001
＜12分	1.78±0.91	

從(2)兩個變項的correlation(r值)為0.2456，可知彼此之間的資料並不呈線行的關係。p<0.0001

從(3)兩組的胃熱分數平均值可知，的確≧12分組的平均分數2.37分是顯著的高於<12分組1.78 (p<0.0001, Wilcoxon rank sum test)。由此可知過動分數高者是比低者有胃熱現象。

因此我們試著找出胃熱分數較好的切點，從(1)可知若胃熱分數切在”3”時’≧12分’組有胃熱比例為46.3%，而’<12分’組有胃熱比例為20.2% (p<0.0001)。(見下表(A)。若胃熱分數切在”4”時’≧12分’組有胃熱比例為23.5%，而’<12分’組有胃熱比例為4.8% (p<0.0001)。

(五)用胃熱與西醫評估分數做 sensitivity、specificity.則結果如下：

Obs	a	b	c	d	SE	SP	PP	NP	agree	kappa
切 ≧3	296	343	2025	7983	0.12753	0.95880	0.46322	0.79766	77.7590	0.11688
切 ≧4	150	489	484	9524	0.23659	0.95116	0.23474	0.95164	90.8613	0.18707

從胃熱分數切在"4"時，sensityvity＝0.23659, specificity＝0.95116，兩種鑑定方法的一致百分比：(150+9524)/10008＝90.86%，及統計檢定兩種鑑定方法的一致性kappa值＝0.18707等結果來看，應是胃熱切在4分處較理想。但從kappa值只有0.18707來說兩者的一致性還是不夠。(應>0.4以上較理想)

表(A)

Frequency / Row Pct	≧3	<3	Total
+12分	296 46.32	343 53.68	639
-12分	2025 20.23	7983 79.77	10008
Total	2321	8326	10647

表(B)

Frequency / Row Pct	≧4	<4	Total
+12分	150 23.47	489 76.53	639
-12分	484 4.84	9524 95.16	10008
Total	634	10013	10647

(六)胃熱中的病人

1.脾氣虛的比率：

胃熱 Frequency / Row Pct	脾氣虛 0	1	2	3	4	Total
0	88 66.17	27 20.30	14 10.53	4 3.01	0 0.00	133
1	2671 56.37	1460 30.81	528 11.14	74 1.56	5 0.11	4738
2	1781 51.55	1137 32.91	458 13.26	77 2.23	2 0.06	3455
3	762 45.17	526 31.18	303 17.96	88 5.22	8 0.47	1687
4	174 34.18	156 30.65	132 25.93	44 8.64	3 0.59	509
5	33 28.95	34 29.82	42 36.84	5 4.39	0 0.00	114
6	2 18.18	2 18.18	6 54.55	1 9.09	0 0.00	11
Total	5511	3342	1483	293	18	10647

從上表可知當胃熱分數越高時脾氣虛的分數也越高(或說氣虛的分數>0者的比例也越高)，P<0.0001。但兩者的correlation不高r=0.1698, p<0.0001。

2.腎氣虛的比率：

胃熱 Frequency| Row Pct	腎氣不固 0	1	2	3	Total
0	122 91.73	9 6.77	1 0.75	1 0.75	133
1	4427 93.44	295 6.23	15 0.32	1 0.02	4738
2	3147 91.09	286 8.28	19 0.55	3 0.09	3455
3	1471 87.20	193 11.44	23 1.36	0 0.00	1687
4	414 81.34	74 14.54	19 3.73	2 0.39	509
5	82 71.93	24 21.05	5 4.39	3 2.63	114
6	9 81.82	2 18.18	0 0.00	0 0.00	11
Total	9672	883	82	10	10647

從上表可知當胃熱分數越高時腎氣不固的分數也有越高(精確的說，應是胃熱≧2分以上者有氣虛的分數>0者的比例也越高的趨勢)，P<0.0001。但兩者的correlation不高r=0.1312, p<0.0001。

3.肝風內動的比率：

胃熱 Frequency| Row Pct	肝風內動 0	1	2	3	Total
0	119 89.47	14 10.53	0 0.00	0 0.00	133
1	4193 88.50	515 10.87	29 0.61	1 0.02	4738
2	2940 85.09	489 14.15	25 0.72	1 0.03	3455
3	1339 79.36	305 18.08	41 2.43	2 0.12	1687

從上表可知當胃熱分數越高時肝風內動的分數也越高(或說肝風內動的分數>0者的比例也越高)，P<0.0001。但兩者的correlation不高r=0.1180, p<0.0001。

(七)其他考量或測試：

將西醫評估的總分與中醫評估總分做相關檢定，結果如下：r=0.30195 p<0.0001(請注意r值比前面大)將右側中醫總分(滿分16分)找切點與左側比較，結果如下：

西醫	中醫		
Frequency|			
Row Pct	+4分	-4分	Total
+12分	334	305	639
	52.27	47.73	
-12分	2496	7512	10008
	24.94	75.06	
Total	2830	7817	10647

Obs	a	b	c	d	SE	SP	PP	NP	agree	kappa
1	334	305	2496	7512	0.11802	0.96098	0.52269	0.75060	73.6921	0.10491

sensitivity、kappa等值似乎不如單獨用胃熱分數好。做西醫評估總分＋12分，－12分與右側的脾、腎、肝做比較結果如下：

左側西醫分數	脾氣虛分數	p value
≧12分	0.9828±0.9817	<0.0001
<12分	0.6626±0.8105	

左側西醫分數	腎氣不固分數	p value
≧12分	0.2911±0.6233	<0.0001
<12分	0.0890±0.3032	

左側西醫分數	肝風內動分數	p value
≧12分	0.3427±0.5598	<0.0001
<12分	0.1478±0.3818	

(八)胃熱診斷中以**肚子怕熱、一身大汗**與西醫分數的關係較強：

左側西醫分數	怕熱		
Frequency|			
Row Pct	No	Yes	Total
+12分	225	414	639
	35.21	64.79	
-12分	4102	5906	10008
	40.99	59.01	
Total	4327	6320	10647

左側西醫分數　肚子怕熱
Frequency|
Row Pct	No	Yes	Total
+12分	343	296	639
| 53.68 | 46.32 |
---|---|---|---
-12分 | 7580 | 2428 | 10008
| 75.74 | 24.26 |
---|---|---|---
Total | 7923 | 2724 | 10647

左側西醫分數　常便秘
Frequency|
Row Pct	No	Yes	Total
+12分	533	106	639
| 83.41 | 16.59 |
---|---|---|---
-12分 | 8931 | 1077 | 10008
| 89.24 | 10.76 |
---|---|---|---
Total | 9464 | 1183 | 10647

左側西醫分數　手腳流汗
Frequency|
Row Pct	No	Yes	Total
+12分	407	232	639
| 63.69 | 36.31 |
---|---|---|---
-12分 | 6678 | 3330 | 10008
| 66.73 | 33.27 |
---|---|---|---
Total | 7085 | 3562 | 10647

左側西醫分數　一身大汗
Frequency|
Row Pct	No	Yes	Total
+12分	276	363	639
| 43.19 | 56.81 |
---|---|---|---
-12分 | 6192 | 3816 | 10008
| 61.87 | 38.13 |
---|---|---|---
Total | 6468 | 4179 | 10647

左側西醫分數　流鼻血
Frequency|
Row Pct	No	Yes	Total
+12分	534	105	639
| 83.57 | 16.43 |
---|---|---|---
-12分 | 8700 | 1308 | 10008
| 86.93 | 13.07 |
---|---|---|---
Total | 9234 | 1413 | 10647

(九)怕熱，手腳心流汗，便秘不是很好的代表：

從下表可知：若以**怕熱，手腳心流汗，便秘**三個分數，與西醫＋12分，－12 分做比較，則+12 分組要在≧2 以上，其人數百分比才會略高於－12 分組，因此**怕熱，手腳心流汗，便秘**不是很好的代表。

左側西醫分數 **怕熱，手腳心流汗，便秘** (總分3分)

Frequency| Row Pct	0	1	2	3	Total
+12分	140 21.91	290 45.38	165 25.82	44 6.89	639
-12分	1936 19.34	5954 59.49	1995 19.93	123 1.23	10008
Total	2076	6244	2160	167	10647

(十)中醫診斷單項與西醫評估分數的關連性：

Correlation of 新組合&左側西醫分數：r=0.3169, p<0.0001

新組合：肚子怕熱＋一身大汗＋睡覺手腳抽動＋尿床＋尿失禁＋鼻子怕冷＋癲癇＋常便秘＋易氣喘＋夜尿 (請注意越重要的排在越前面)

肆、討論

一、注意力缺失過動症一向以西醫診斷為依據，並且需訓練有成的專科醫師診斷，而多半又以精神科專科醫師為主，診斷標準以六歲孩童以上。

二、本研究以孩子的臨床症狀出發做為中醫辨證依據，可以輕鬆的做自我評估，且不用侷限六歲以上的年齡，在一歲以上就可自我評估，對於預防醫學有正面意義。

三、在文獻調閱中，我們發現西醫學界有人注意到注意力缺失過動症孩子除了注意力缺失、過動/衝動外，還有其他症狀會影響注意力缺失過動症的治療。

四、中醫的辨證思考方式有助於解決注意力缺失過動症孩子全面的(holistic)治療模式。

五、若不以胃熱為主要選項，而僅以中醫自我評估分數來看，研究中發現以單獨用胃熱分數比用中醫總分可以得到較佳的西醫過動症相關性。

六、研究中發現以用胃熱分數比用腎氣不固、肝風內動、脾氣虛分數可以得到較佳的西醫過動症相關性。

七、10647 位樣本中有 418(3.9%)有肚子怕熱＋一身大汗＋手腳流汗，若以西醫的標準來看，過動兒中有 107 位(16.74%)會有此三項，顯著的高於非過動兒(3.11%)。

八、胃熱分數在 4 分(含)以上與西醫診斷過動兒有較明顯的相關性。

九、過動分數高者是比低者有胃熱現象。

十、胃熱分數越高時脾氣虛的分數也越高

十一、胃熱分數越高時腎氣虛的分數也越高。

十二、胃熱分數越高時肝風內動的分數也越高。

十三、胃熱診斷中以肚子怕熱、一身大汗與西醫分數的關係較強，怕熱，手腳心流汗，便秘不是很好的代表。古籍研究中胃熱是因胃實則熱，蘊積生熱，身熱多汗，腹脅堅滿，大便秘難。

十四、中醫診斷單項與西醫評估分數的關連性：

肚子怕熱＋一身大汗＋睡覺手腳抽動＋尿床＋尿失禁＋鼻子怕冷＋癲癇＋常便秘＋易氣喘＋夜尿(請注意越重要的排在越前面)

十五、胃熱分數大於或等於 4 分時，西醫診斷大於或等於 12 分的比例為 23.5%。因此，我們發現一般人口中應有 23.5%的人是屬於有胃熱體質，並且與西醫診斷為注意力缺失過動症有明顯關連性。

伍、結論及建議

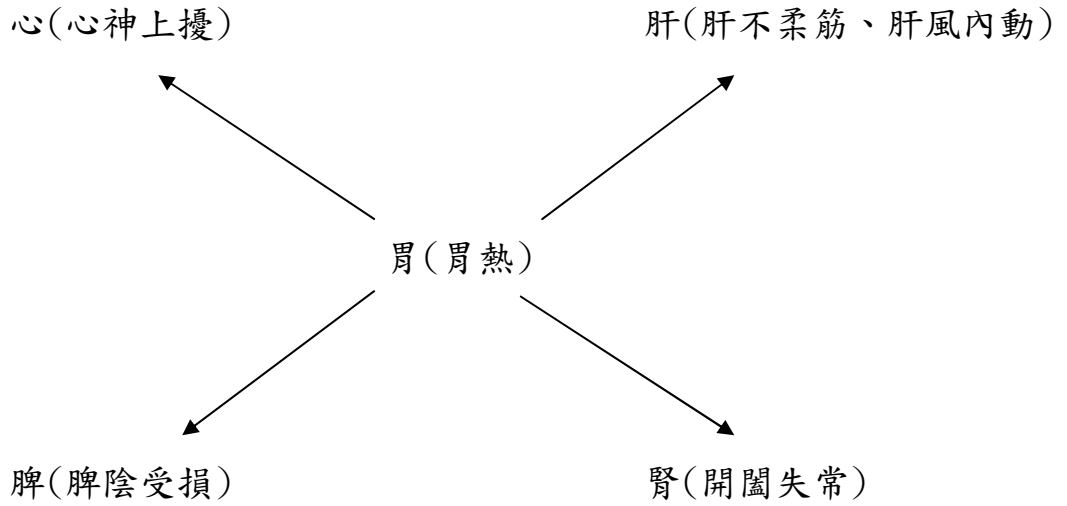
一、有一群有相同症狀(便秘、怕熱、睡不安穩…)的孩子是屬於注意力缺失過動症的診斷，我們認為不是巧合，而是屬於中醫辨證中的「胃熱」。

二、有一些注意力缺失過動症的孩子有睡眠中抽搐(RESTLESS LIMB MOVEMENT)我們認為是屬於中醫辨證中的「肝風內動」。

三、對於注意力缺失過動症而言，中醫診斷較能提早預防症狀的惡化，且讓民眾有自我評估的能力。

四、從研究中發現，中醫診斷中以胃熱為主要考量依據，與我之前注意力缺失過動症之中醫藥古籍研究中結論相同，並且胃熱與脾肺氣虛、肝風內動、腎氣虛的相關性強，與古籍研究中所提及之注意力缺失過動症病理病機相吻合。

圖 1



五、從研究中，我們認為注意力缺失過動症的主要問題在脾胃系統，而非西醫界認為的大腦病變問題。此項結論似屬不可思議，然而統計分析已給我們可靠而符合事實的答案。所有研究注意力缺失過動症的中西醫界應重新從脾胃系統探討注意力缺失過動症的病理病機，而非一味的從大腦做研究。

六、我們認為人類的脾胃系統出現問題時，足以導致人們出現思考及學習障礙。

在之前所做的古籍研究曾提及胃邪盛，則身以前皆熱。四肢者，諸陽之本，陽盛則四肢實，實則能登高而歌，棄衣而走。

胃氣盛熱則壅澀不宣，蘊積生熱，面目悉黃，譫妄狂語，身熱多汗，腹脅堅滿，大便秘難。胃中火盛，必汗不止而小便數。實則能登高而歌，棄衣而走，譫妄狂語，就是指胃熱之人的行為舉止異於常人，自然會出現思考及學習障礙。

在 1998 年出版的“第二個大腦”(The Second Brain)一書中，葛生博士(Michael D.Gerson,M.D)—神經消化學的創始人，從對血清素(serotonin)的研究開始，發現醜醜的消化道其實比心臟更聰明，並且擁有更大的能力可以去“感受”(feeling)，因為它是唯一一個沒有大腦(brain)或脊髓(spinal cord)的神經傳導，仍有能力去執行神經功能的器官。

消化道的神經分佈區域可以相當於一個足球場，事實上比大腦及脊髓分佈的區域更廣。葛生博士稱這樣的大腦系統為“在腸神經系統”(enteric nervous system)，它是一個獨立運作不受大腦控制的系統，因此稱為“第二個大腦”。

在書中，葛生博士詳訴為什麼“在腸神經系統”(enteric nervous system)，是一個獨立運作不受大腦控制的系統，並且被稱為“第二個大腦”。

因此，人類如果有精神疾病相關的”在腸症狀”(enteric s ymptoms)，將不是一件另人驚訝的事。

同時，不管有沒有大腦(brain)的影響，“在腸神經系統”(enteric nervous system)也自然而然的可以導致”在腸症狀”(enteric symptoms)。葛生博士認為雖然現今”功能性腸道疾病”是一堆缺乏確定病理證據的症侯群(complex of symptoms)，但他深信未來這些都會被清楚的界定出來。

葛生博士的研究團隊特別重視血清素(serotonin)的研究，事實上腸道(gut)細胞已被發現至少有七種血清素(serotonin)的接受器(receptor)。而研究精神醫學的專家或臨床醫師也都十分清楚，目前以血清素(serotonin) 接受器(receptor)來發展的憂鬱症藥物是十分普遍的。

因此他認為「當人類的心智下降時，首先必須考慮的他或她的排便習慣!」並且認為未來可能有人會用直腸的切片檢查(biopsy)當做是大腦檢驗的重要醫據(the window on the brain)。

即便經過多年的實驗室研究，葛生博士坦言要讓人們明白”他有一個大腦在他的肚子”，對人們來說還是十分難以接受的。

但他認為”人有一個大腦在他的肚子”是一個突破性的”再發現”(rediscovery)，因為這個概念將更吸引人們新的熱門研究方向。

其實早在 900 年前的中醫學家(西元 1115 年~1386 年)中，就有李東垣特別強調「脾胃論」，在他的觀念中：脾胃為五行中之土，土為萬物之母，而脾胃的功能又正是供養全身營養之所，在所以脾胃功能之失常就會直接影響到全身四肢百骸頭目九竅。

在（脾胃虛實傳變論）中也提到：「夫飲食不節、寒溫不適、脾胃仍傷。此因喜怒憂恐，損耗元氣，資助心火，火與元氣不兩立，火勝

則乘其土位，此所以病也。」

另外，「胃不和則不眠」也是中醫臟腑理論所強調的。這樣的理論與葛生博士的研究不謀而合，只是中醫以五行及臟腑理論來推論，葛生博士則以血清素(serotonin) 接受器(receptor)的研究來證實「在腸神經系統與精神疾病的相關性」。

七、中醫界必須做相關衛教，使得胃熱的觀點如西醫診斷之高血壓、糖尿病一樣為民眾所耳熟能詳，以便民眾自我檢測、提早預防。

八、「胃熱」本身造成注意力缺失過動症的孩子怕熱、胸中煩熱、便秘、疔瘡、大汗淋漓、半夜磨牙、舌紅、善驚、不得眠手足汗、頭面多汗、鼻干燥、五更嗽等症狀。也造成他們「看」及「聽」出現誤差。我們認為注意力缺失過動症的病患是一群因為脾胃系統困難導致學習及做人處事有困難的「頭腦近視」患者，唯有正視此一問題的存在性，才有可能幫助這群孩子。

九、由於「胃熱」是造成注意力缺失過動症的主因，而「嗜食肥甘」又是造成「胃熱」的主因，因此適當的飲食觀念對於注意力缺失過動症是絕對需要的。就目前的社會形態而言，炸雞、巧克力、薯條、洋芋片、咖哩都是加重胃熱的因素，有胃熱體質的人要絕對避免。

十、注意力缺失過動症是先天體質不良，後天營養失調所致。既然是體質的問題，同一家族都需注意相關體質，飲食調整也必須是全家族共同必須改善的課題。

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