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The Treatment of *Lithium-Deficient Attention Deficit Spectrum Disorders* in an Ambulatory Therapeutic Community

XIth Latin-American Conference of Therapeutic Communities
April 12th - 14th 2007
Buenos Aires, Argentina

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The treatment of Lithium-Deficiency Attention Deficit Spectrum Disorders in an ambulatory therapeutic community

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In my clinical experience practicing community psychiatry, I have observed that a large subgroup of patients who fulfill the DSM-IV-TR [1] diagnostic criteria for Attention Deficit/Hyperactivity Disorders (AD/HD) respond with a dramatic improvement of their emotional dysfunction within a very short time – 15 to 30 minutes – after taking an oral dose of **100 to 200 micrograms of chelated (nutritional) lithium**. [2] I call this temperamental improvement the "Lithium Equanimity Response" to differentiate it from the sedative effect of anti-anxiety drugs. This dramatic response may be explained as a correction of the patient's deficiency in nutritional lithium. My experience also has shown that this improvement is maximized on a long-term basis if the use of chelated lithium occurs with the backing of a peer group organized in an ambulatory therapeutic community.

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[1] Diagnostic and Statistical Manual of Mental Disorders, 4th. ed., Text Revision, Washington, D.C.: American Psychiatric Association; 2000.

[2] Chelated (nutritional) lithium is sold over-the-counter in many health food stores. It can also be purchased over the Internet.

Figure 1 is a copy of the symptom profile **checklist** used in my practice. [3] If the persons being evaluated score more than 13 or 14 of the 20 diagnostic criteria for AD/HD in the symptom checklist (*Fig. 1*), and if they respond favorably to a 100 – 200 microgram test dose of chelated lithium with increased attention, less distractibility, lowered anxiety, uplifted mood, less boredom, reduced oppositional attitudes, and a general increase in well-being, they are invited to participate in the ambulatory therapeutic community **treatment program**. [4]

The degree of nutritional lithium insufficiency varies from person to person, and fluctuates with internal mood swings, hormonal cycles, and diverse circumstances surrounding each person. In my practice, weekly follow-ups are carried out for nutrient monitoring ("medication checks"), to observe changes in the profile of the patient's symptoms, and to make adjustments in the lithium dosage. A lithium maintenance dose is arrived at after a few weeks of monitoring. A maintenance dose is the minimum amount of chelated lithium that, taken four times a day, will reduce the symptom's levels to normal (N – L) or near normal (N – L – M) in each of the first 19 behavioral diagnostic

[3] This checklist is a self-assessment instrument adapted by me from the DSM-IV diagnostic criteria for AD/HD, and the checklist published by E. Hallowell and J. Ratey at pp. 73-76 of their 1995 book, Driven to Distraction (Touchstone Press, New York). I have used this instrument routinely as part of the admission process for all my patients, as a screening test for the presence of AD/HD. The scores on the checklist are also keyed to the Global Assessment of Function (GAF) scale of the DSM-IV-TR. For each symptom, N corresponds to no resulting impediment (GAF 91-100), L corresponds to a light impediment (GAF 71-90), M to moderate impediment (GAF 51-70), S to severe impediment (GAF 31-50), and C to incapacitating or catastrophic impediment (GAF 1-30).

[4] The Ambulatory Therapeutic Community Treatment Program for Attention Deficit Spectrum Disorders (ADSD) carried out in our Ocean Park Clinic consists of five clinical strategies: (a) Micro-nutritional correction of nutritional deficiencies underlying ADSD, through the use of chelated lithium (four times a day), plus free-form amino acids, vitamins, minerals and phytochemical supplements; (b) Clarification of common misconceptions about ADSD, biogenetics, lithium and amino acids, in individual and group sessions; (c) Support group meetings geared toward celebrating change and progress, with all the members helping one another in the exploration of successful strategies; (d) Vocational reorientation, through individual and group coaching towards identifying and nurturing talents to improve treatment outcome, and to promote vocational and economic self-sufficiency; (e) Non-denominational meditation techniques to enhance the intuitive component of the personality, so that the ADSD person will step out of the "victim of fate" role and see his or her condition as a gift, and as the road to humanistic expansion of consciousness.

criteria of the checklist. The 20th criterion reflects the presence of AD/HD diagnostic criteria in the patient's blood relatives. That criterion does not usually change unless those family members enter the lithium supplementation treatment plan, which is the ideal scenario. They are encouraged to attend the initial family group evaluation, and to

Figure 1

DIAGNOSTIC CRITERIA FOR ATTENTION DEFICIT SPECTRUM DISORDERS (AD/SD) · SYMPTOM CHECKLIST
(Twenty observable behavioral patterns in an AD/SD person)

- *N corresponds to GAF 91-100 (no impediment)*
- *L corresponds to GAF 71-90 (light impediment)*
- *M corresponds to GAF 51-70 (moderate impediment)*
- *S corresponds to GAF 31-50 (severe impediment)*
- *C corresponds to GAF 0-30 (incapacitating impediment)*

NAME..... DATE.....

SELF-ASSESSMENT OF FUNCTIONING (GAF SCALE)	N	L	M	S	C
01 MELANCHOLIC PESSIMISM (FEARS) *Being afraid of failure based on previous experience*					
02 DISORGANIZATION (DISORDER) *Having difficulty in planning*					
03 PROCRASTINATION (POSTPONING OR DELAYING ACTION) *Having difficulty with initiative*					
04 DISPERSION (JACK OF ALL TRADES, MASTER OF NONE) *Getting involved in too many things at once*					
05 CARELESS VERBALIZATION (THE FOOT TO MOUTH SYNDROME) *Impulsive expression, lacking tact*					
06 RISKY BEHAVIOR (DAREDEVIL ATTITUDE) *Seeking challenge and danger for adrenaline rush*					
07 BOREDOM (HAVING TO BE ENTERTAINED) *Intolerance to idleness or to having nothing to do*					
08 DISTRACTION (ABSENT-MINDEDNESS) *Difficulty in focusing attention on uninteresting things or events*					
09 INVENTIVENESS (INTUITIVE NIMBLE-MINDEDNESS) *Using creativity to find unsuspected alternatives, including lying*					
10 REBELLIOUSNESS (OPPOSITIONAL ATTITUDE) *Tendency to resent boundaries and rules*					
11 IRRITABILITY (SHORT-FUSED ANGER) *Intolerance to frustration*					
12 IMPULSIVITY (IMPATIENCE) *Acting without fully considering the consequences*					
13 PREOCCUPATION (WORRY WART) *Excessive, unnecessary concern*					
14 INSECURITY (CAN'T MAKE UP YOUR MIND) *Unstable identity*					
15 AFFECTIVE BIPOLARITY (MOOD SWINGS) *Fluctuating affective states*					
16 RESTLESSNESS (JUMPINESS, WIRED) *Could be internal (anxiety) or external (hyperactivity)*					
17 ADDICTIONS (MORBID ATTACHMENTS) *Compulsive, repetitive, self-destructive habits*					
18 LOW SELF-ESTEEM (SELF DEPRECATING) *Tendency towards self punishment and feeling worthless*					
19 POOR INSIGHT (DENIAL) *Need to be coached*					
20 FAMILY HISTORY (WHO DO YOU TAKE AFTER?) *Historical confirmation of genetic susceptibility and unfavorable nurturing patterns*					
TOTAL					

participate in family group treatment and follow-up sessions. Families that collaborate in this manner achieve the best therapeutic results.

Among the over 2,300 patients – children, adolescents, adults and elderly – that I have treated with nutritional lithium supplementation, **documented clinical experience** reveals negligible side effects: transient headaches; heartburn in patients with previous history of gastrointestinal sensitivity, if the lithium is taken on an empty stomach; and rare allergic reactions to the vegetable flours (millet, buckwheat, peas and lentils) used as a base in the capsules. Fifty microgram capsules of chelated lithium are sold over the counter in many health food stores, and require no medical prescription.

Nutritional lithium can be ingested in doses ranging from 100 to 400 micrograms (or even more as needed) four times a day, with meals and at bedtime. The four-times-a-day dosage is necessary to maintain the lithium equanimity response around the clock because the physiological effects of lithium last from 4 to 5 hours, after which time 90 to 95% of the mineral is eliminated.

The data I have gathered in my practice demonstrates that, on a consistent four-times-a-day maintenance dose of nutritional lithium, the patient's scores on the self-assessment check list improve dramatically, and the patient becomes more receptive and responsive to whichever modality of psychosocial treatment is selected to target specific symptoms and complications. The data also shows that an adequately monitored nutritional lithium protocol, together with participation in **peer support group** activities is all that is usually needed to achieve a remission of symptoms. Patients quickly learn to become self-sufficient in maintenance dose monitoring ("surfing your temperament").

Peer support groups, either within the treatment program or at home, are excellent tools for monitoring behavior, and for reality testing. This is the core technique of the **therapeutic community (TC) concept**, which I pioneered in the 60's and 70's in Puerto Rico, New York, and the Dominican Republic. This concept for the treatment of ADD related psychosocial disorders such as drug addiction and alcoholism has demonstrated a high degree of success during the 40 years of its development. The World Federation of Therapeutic Communities recognizes that this model has been copied across Europe and in many parts of the United States, and has now "engulfed the world". [5] The existential confrontation that occurs in a therapeutic community of this kind helps the person to accept reality as it is, and not as it is distorted by his or her temperamental make-up. Confrontation with reality is facilitated by psychosocial "scaffolding", that is, peer support groups where therapeutic dialogue is facilitated by the equanimity response to lithium supplementation, and through psycho-educative techniques such as Attitudinal Skills Training – which is a group application of one-on-one **therapeutic dialogue**. [6] Attitudinal Skills Training in a TC occurs in the context of the ***tertulia*** (a Spanish term used to describe three or more persons engaged in a debate-free exchange of energy, information and understanding directed towards the advancement of individual and group healing).

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[5] Personal communication with Monsignor William B. O'Brien, President of the World Federation of Therapeutic Communities.

[6] In order for therapeutic dialogue to occur, adhering to the following techniques is critical: (a) paying attention to verbal and non-verbal manifestations of the other persons' temperamental make-up, and how well such persons utilize their talents and executive function to neutralize negative aspects and enhance positive ones: (b) clarifying, through simple questions, the observed behavior and its meaning; (c) achieving mutual understanding, if not agreement; (d) identifying ways to modify behavior towards a better communication; (e) including these techniques in the daily plan to be reviewed and monitored periodically; (f) incorporating modified (improved) behavior in a new life style (*metanoia*), on a permanent basis.

Long term personality change for the better in the TC setting is called ***metanoia*** (literally, a new way of thinking) and is achieved by the daily interaction between the participant and an emerging personal support group composed of empathetic "allies" in each of the five axes of holistic healing:

- Nutritional Axis: Persons with whom healing nutritional needs can be discussed and explored, for example, Club 120. (See www.club120.net.)

- Therapeutic Dialogue Axis: Partners (such as spouses, friends, colleagues, TC peers) with whom verbal healing skills can be practiced on a daily basis.

- Social Axis: Activists who will facilitate participation in communal endeavors for social reform. (Social action groups such as the Foundation of Adults with Attention Deficit Disorders of Puerto Rico. See www.addapr.org.)

- Occupational/Vocational Axis: Mentors (such as successful TC alumni) to help channel talents, skills and commitment towards economic improvement with emotional satisfaction.

- Spiritual Axis: Advisors (such as advanced students of the Individuation Process in the TC concept) to help participants in the exploration and understanding of transpersonal (spiritual) experiences.

Ideally, homes could become therapeutic communities for individuals and their allies. Home-based personal therapeutic communities are becoming the seedbeds of a better society.

A significant finding of my clinical experience has been a redefinition of the basic principles of mental health and mental illness. My data tends to show that Attention Deficit Spectrum Disorders (ADSD) are key elements in the initial stages of all mental disorders, and that if left unattended they will eventually develop into other serious mental disorders. (Axis I and II of DSM-IV-TR.) In my clinical experience, patients on lithium supplementation in an ambulatory therapeutic community support system have reduced the intensity of their mental dysfunctions from incapacitating (panic attacks, psychosis, addictions, depressions, etc.) to moderate neuroticism, to basically normal AD/HD. The clinical evidence I have collected suggests a hereto unsuspected, although correctable, lithium deficiency component in **all** functional mental illness.

As a result of this experience, I have compiled a twelve-item catalogue of working hypotheses that serve as the theoretical framework for my day-to-day clinical practice. This catalogue may be used by clinicians and researchers, as well as patients, parents, teachers, government officials, business leaders and representatives of community organizations and incorporated within their particular field of work. I am confident that implementation of this framework will improve the capacity of the individual, community, society and institutions to cope with ADSD and its psychosocial costs.

Twelve Working Hypotheses:

1. Undiagnosed and/or inadequately treated Attention Deficit Spectrum Disorders (ADSD) are to be considered among the most significant causes of the various psychosocial dysfunctions listed in Axis I and II of DSM-IV-TR.

2. ADSD are considered to be genetically dominant behavioral expressions of the ADD personality genotype.

3. ADSD can be adequately described by the identification of **20 habitual attitudes and behavioral patterns** (phenotypes) embedded in the DSM-IV-TR diagnostic criteria, as described in the self-assessment check-list in Fig. 1.

4. In time, each of the 20 observable ADSD phenotypes (behavioral patterns in an ADSD person), if not treated adequately, tends to get worse, progressing from **slight** dysfunction, to **moderate**, **severe**, **borderline** and eventually culminating in **catastrophic (incapacitating)** dysfunction, according to the Global Assessment of Function Scale. **Slight** to **moderate** psychosocial dysfunction seems to be the statistical norm in the population I have studied, approximately 3,000 patients. **Moderate to severe** dysfunction correlates with psychosocial pathology, a condition for which persons tend to seek professional help on an outpatient basis. **Severe** to **catastrophic** dysfunction correlate with DSM-IV-TR clinical syndromes, frequently requiring crisis intervention measures.

5. The dysfunction resulting from ADSD can be understood as an **unbalanced interaction** of the three basic aspects of the human personality: (a) **temperament** (emotions), (b) **talent** (innate skills), and (c) **character** (executive function), with which the individual confronts his **existential environment**. [7]

6. The driving force behind ADSD symptomatology stems from a poorly controlled **innate reactive temperament,** manifested through one or more of the following innate tendencies: aggressiveness, callousness, impulsivity, irritability, melancholy, sensibility, sexuality and shyness. [8]

7. **Chelated lithium** (nutritional lithium) in doses of 200 micrograms or more, four or five times a day, which usually produces an **immediate improvement of temperamental intensity** (lithium equanimity response), makes ADSD syndromes and their complications and co-morbidities more easily treatable, with any of the standard psychosocial techniques available. In other words, chelated lithium operates as a universal psychotherapeutic facilitator.

8. In persons with an ADSD profile, **chelated lithium** acts in a few minutes after oral ingestion, producing an equanimous (calm and balanced) mental state without a doping effect, and actually increases alertness and capacity for attention and concentration. This immediate therapeutic response is a strong motivating experience for treatment compliance and trust.

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[7] Ramírez E, Tratamiento Holístico de Déficit de Atención. [Holistic Treatment of Attention Deficit Disorder, available only in Spanish.] Ponencia, II Congreso Latinoamericano de Déficit de Atención e Hiperactividad, San Juan, Puerto Rico, 2001.

[8] Ibid.

9. **Lithium** acts as an **essential neurogenesis growth factor**. After one to two months of regular ingestion it augments cerebral cortex capacity through an increased number of self-transplanted embryonic stem neurons and glia (neurogenesis), and through increased density of dendritic connections (synaptogenesis). [9] In the person, these neurological effects are reflected in an increased capacity to cope with stress.

10. A long term effect of chelated lithium on cellular metabolism could be the **strengthening of nuclear DNA repair systems** and the provision of a supplementary mitochondrial repair system. [10]

11. **Chelated lithium** catalyzes free-form amino acid linkages to produce a healthy, extended longevity proteome. It also reduces amyloid secretion and *Tau* protein production, both of which are biological markers of Alzheimer's disease. It could be a significant prevention, treatment and rehabilitation agent for Alzheimer's disease and other chronic degenerative neurological conditions. [11]

12. An immediate "equanimity" response to an oral dose of 100 – 200 micrograms of chelated lithium is proposed as a confirming biological diagnostic test for ADSD in those patients who score positive for slight, moderate, severe, or incapacitating disorder in 12 or more of the clinical diagnostic criteria contained in the self-evaluation instrument. (Fig. 1)

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[9] Travis J, Lithium increases gray matter in the brain. Science News (2000); **158**: 309.

[10] Travis J, Stimulating clue hints how lithium works. Science News (1998); **153**: 165.

[11] Sun X, Sato S, Muruyama O, Park JM, Yamaguchi H, *et al*. Lithium inhibits amyloid secretion in COS7 cells transfected with amyloid precursor protein C100. Neurosci Lett (2002): **321**: 61-64.

Whether the subgroup of persons with lithium-deficiency attention spectrum disorders (lithium responders) constitutes the minority, majority or the totality of the 8,000,000 United States citizens estimated to have AD/HD (approximately 4% of the general population) [12] remains to be demonstrated by studying a wider population of treated individuals. If the 4% prevalence were to apply to the population of the planet, there could be 240,000,000 persons in the world with lithium-deficiency attention deficit spectrum disorders, for whom chelated lithium could be an economically feasible preventive strategy for the reduction of their mental health risks.

Conclusions

My clinical experience tends to show that the microgram level of nutritional supplementation of chelated lithium, added to the regular meals of persons affected by the moderate, severe and catastrophic levels of ADSD, can make a significant improvement in the quality of their lives and can result in a considerable reduction of the social costs associated with the phenotypic expression of the ADSD genotype. [13]

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[12] AD/HD Prevalence Statistics, 3-7% in school-age children (DSM-IV-TR, note 1, *supra*, p. 90). According to Hallowell and Ratey, note 3, *supra*, p. 6, "We now know that only about a third of the ADD population outgrows it; two-thirds have it throughout adulthood".

[13] Ramírez E, Tratamiento Holístico . . . note 7, *supra*. See also Ramírez E, Diagnóstico de Déficit de Atención. [Diagnosis of Attention Deficit, available only in Spanish.] Ponencia, III Congreso Latinoamericano de Déficit de Atención e Hiperactividad, San Juan, Puerto Rico, 2002; Ramírez E, Complicaciones psiquiátricas del TDAH cuando no es tratado o es tratado inadecuadamente: diagnóstico, tratamiento y rehabilitación. [Psychiatric Complications of Attention Deficit/Hyperactivity Disorder, when untreated or inadequately treated: diagnosis, treatment and rehabilitation; available only in Spanish.] Ponencia, IV Congreso Latinoamericano de Déficit de Atención e Hiperactividad, Puerto Plata, República Dominicana, 2003; and Ramírez E, La experiencia clínica del litio quelatado en el tratamiento del trastorno de déficit de atención. [Clinical experience with chelated lithium in the treatment of attention deficit disorder, available only in Spanish.] Ponencia, V Congreso Latinoamericano de Déficit de Atención, Puebla, México, 2004.

It is suggested that nutritional **Lithium-Deficiency Attention Deficit Spectrum Disorders** (LDADSD) underlie all functional human mental illness. If this is confirmed in a significantly large number of cases world-wide, we would be in a position to launch an evidence-based mental health primary preventive drug-free treatment in residential and ambulatory settings complimentary to the conventional medical systems. A low-cost, low-tech, user-friendly global village program of diagnosis, treatment, prevention and rehabilitation can evolve out of the application of these hypotheses for the benefit of a great number of persons across the planet.

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