OBSESSIVE-COMPULSIVE ANXIETY DISORDER

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OUTLINE

- History
- Etiology
- Diagnosis
- Epidemiology
- Course/Prognosis
- Treatment

3 MYTHS OF OCD

- Rare
- Untreatable
- Psychologically Driven

HISTORY [EARLY THEORIES]

- Individuals that blasphemed, sexual obscenities, and had ritualistic behaviors were thought to be possessed by the devil
- Freud's 20th century analytic theory described OCD as being caused by unconscious conflicts and regression to anal sadistic phase of development
- Janét's theory described OCD as a deficiency of mental energy that permitted primitive mental functions to dominate

HISTORY

- 1918 worldwide encephalitis epidemic survivors had common sequelae of obsessive compulsive and Parkinson's symptoms
- This changed the theory of OCD to focus on biochemical and structural etiology

HISTORY

- Early studies found abnormalities in serotonin metabolism and researchers found OCD symptoms worsened with m-CPP [m-chlorophenylperazine]
- Little to no improvement with MAOI's and TCA's
- SSRI's (clomipramine) helped with symptoms
- OCD relapse could be induced with serotonin antagonist (metergoline)

PREVIOUS HISTORY

- Pediatric autoimmune neuropsychiatric syndrome PANS was aka PANDAS[pediatric autoimmune neuropsychiatric disorders associated w/ streptococcal infections KEY more sensitive to serotonin syndrome and eps,dopamine defeciency syndrome low ferritin
- Traumatic event ie death of loved one, natural disaster, abuse
- Traumatic brain injury

PANDAS/PANS

Pediatric Autoimmune Neuropsychiatric Disorders Associated with Strep A Beta-Hemolytic

- Tics and OCD associated with documented Strep infection
- Similar pathophysiology to Sydenham's Chorea and Rheumatic Fever (the heart)
- Glomerulonephritis
- SAR's COVID-19 and other viruses

FAMILY HISTORY

- OCD
- Hoarding
- Tics and Tourette's
- Alcoholism
- Suicidal behaviors family members
- Mood disorders (bipolar, overlap of symptoms and both cyclic)

(Pauls, 1995)

CHILDHOOD HISTORY [8 TRAITS]

- Separation anxiety
- Resistance to change [could look like ODD]
- Risk aversion
- Ambivalence
- Excessive devotion to work
- Magical thinking [could become psychotic]
- High level morality
- Perfectionism

(Rasmussen, 1986)

SYMPTOM ONSET

Disorder	Age of Onset (Years)
ADHD	4 to 6
Tics	6 to 8
OCD	9

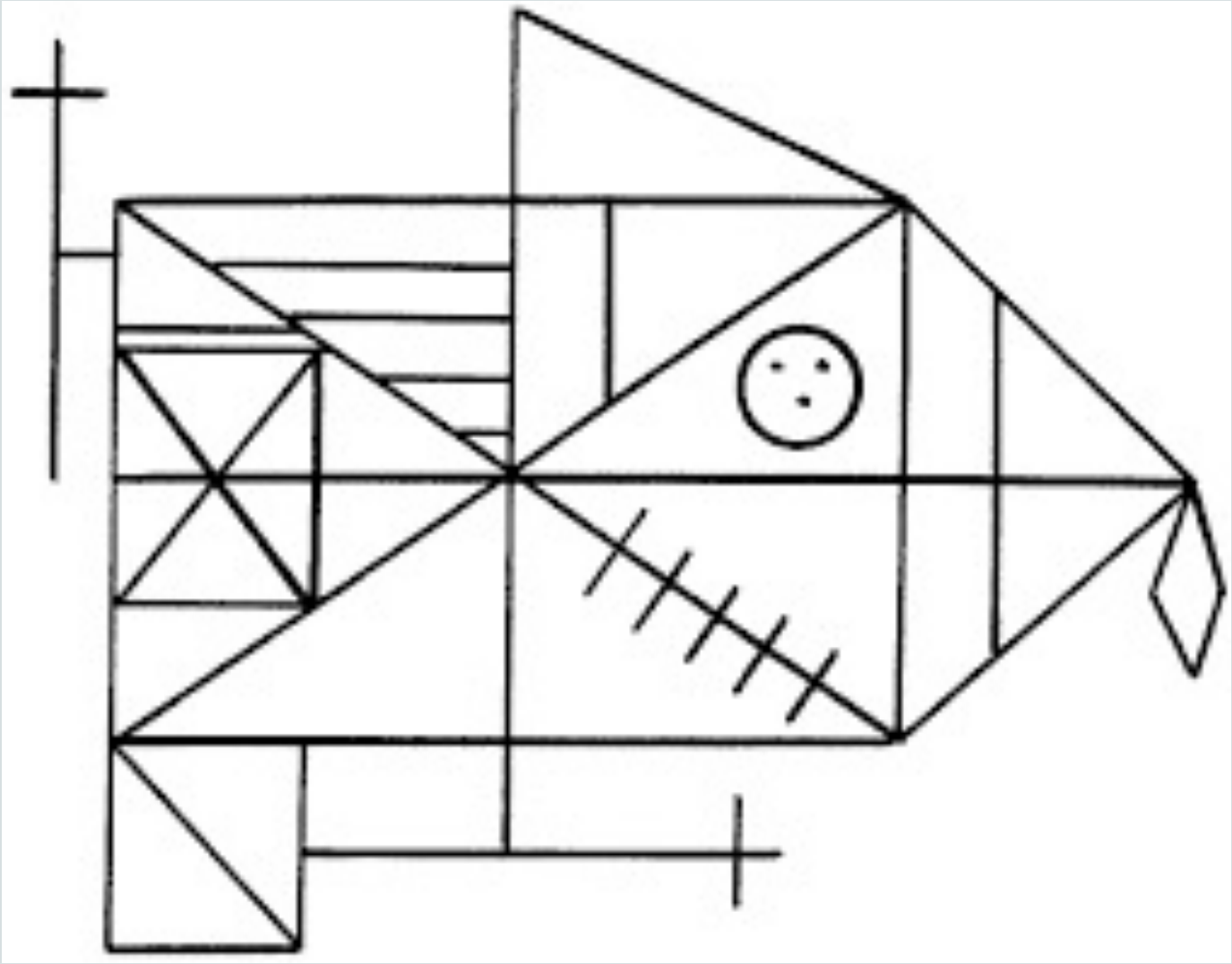
Block, Michael AACAP 2007

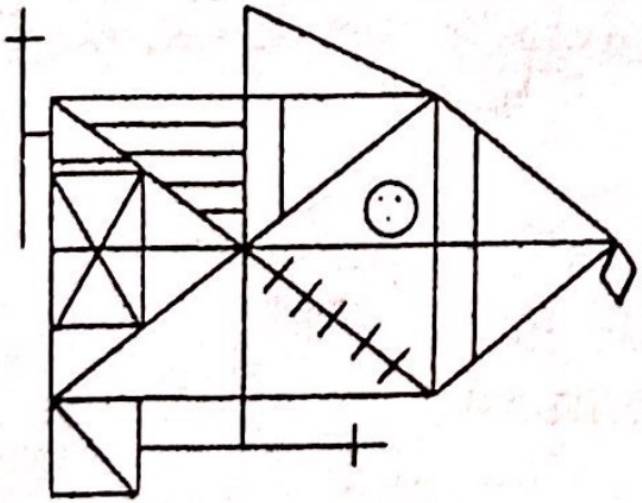
NEUROPSYCHOLOGICAL

- Impairment- visual spatial and visual constructional difficulties
- Frontal-lobe-related executive function
- Visual memory
- Difficulty registering and organizing novel information [can't see forest for the trees, hyper focus]
- Will commonly complain of impaired short term memory affecting school or work.

(Insel, 1983)

REY-OSTERRIETH COMPLEX FIGURE TEST





Order of Construction	Normal Control Subject	OCD Patient
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2		
3		
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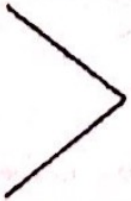
5		

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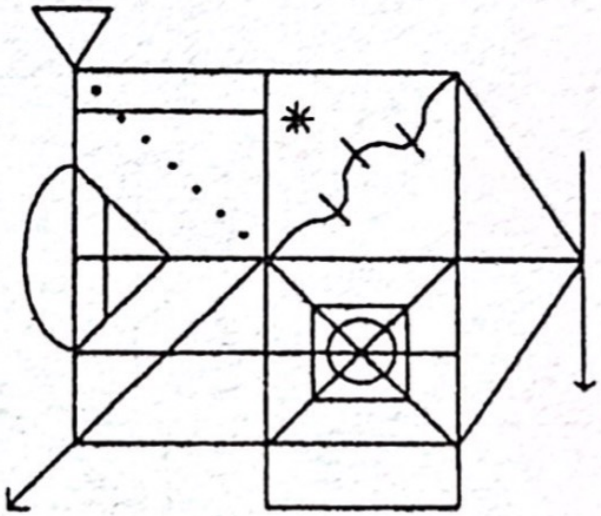
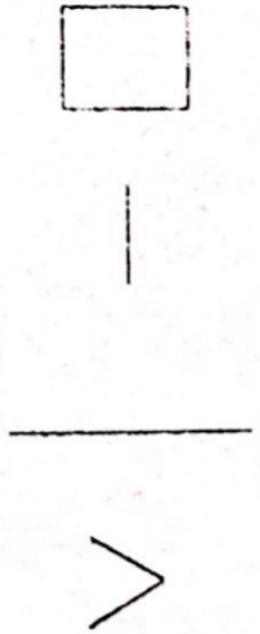
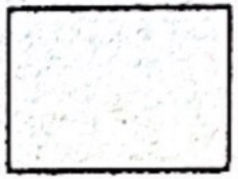


Meaningful Units

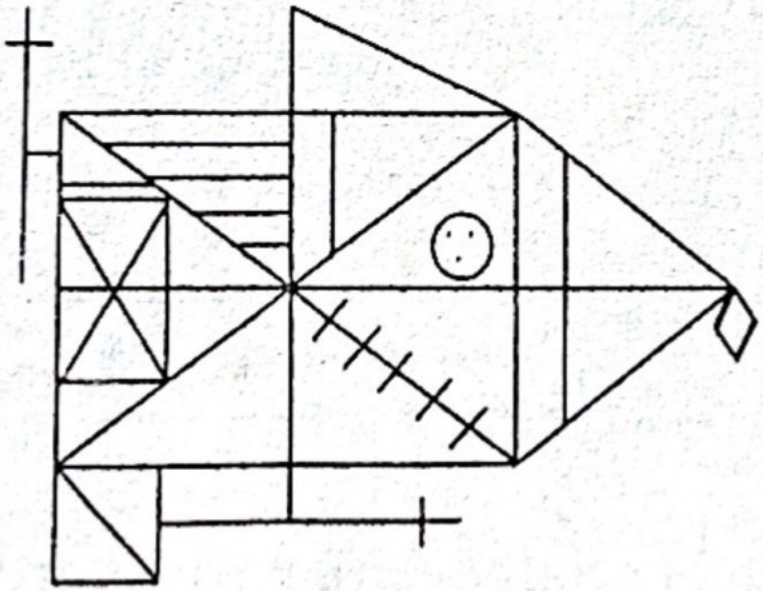


Buhlmann et al., 2006

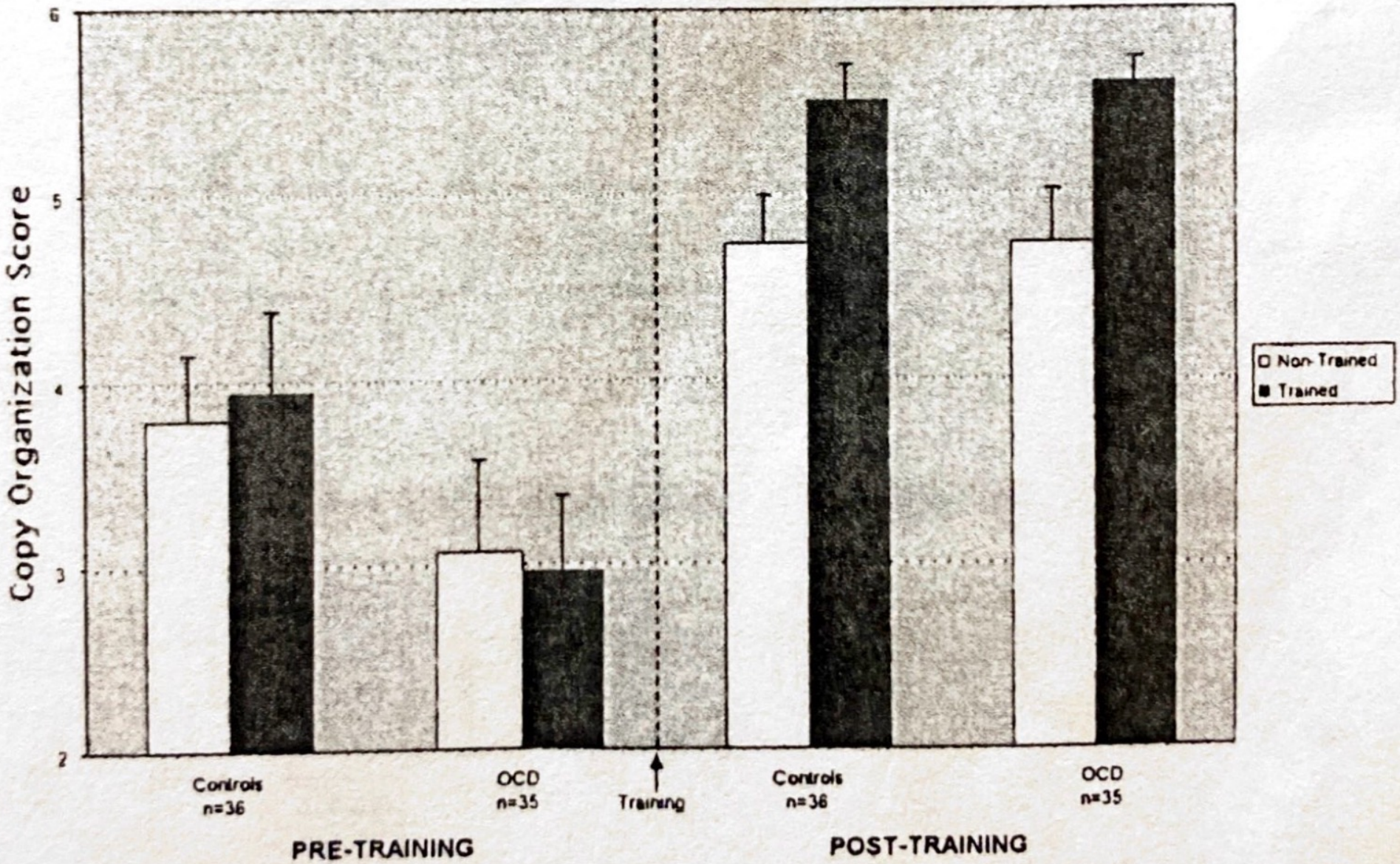
Organizational Elements



RCFT Figure



RCFT Copy Organization



Buhlmann et al., 2006

Please answer each of these questions by marking "Yes" or "No"

1.	Do you have unwanted ideas, images or impulses that seem silly, nasty or horrible?	△ Yes	△ No
2.	Do you worry excessively about dirt, germs or chemicals?	△ Yes	△ No
3.	Are you constantly worried that something bad will happen because you forgot something important–like locking the door or turning off appliances?	△ Yes	△ No
4.	Are you afraid you will act or speak aggressively when you really don't want to?	△ Yes	△ No
5.	Are you always afraid you will lose something of importance?	△ Yes	△ No
6.	Are there things you feel you must do excessively or thoughts you must think repeatedly, in order to feel comfortable?	△ Yes	△ No
7.	Do you wash yourself or things around you excessively?	△ Yes	△ No
8.	Do you have to check things over and over again or repeat them many times to be sure they are done properly?	△ Yes	△ No
9.	Do you avoid situations or people you worry about hurting by aggressive words or deeds?	△ Yes	△ No
10.	Do you keep many useless things because you feel that you can't safely throw them away?	△ Yes	△ No

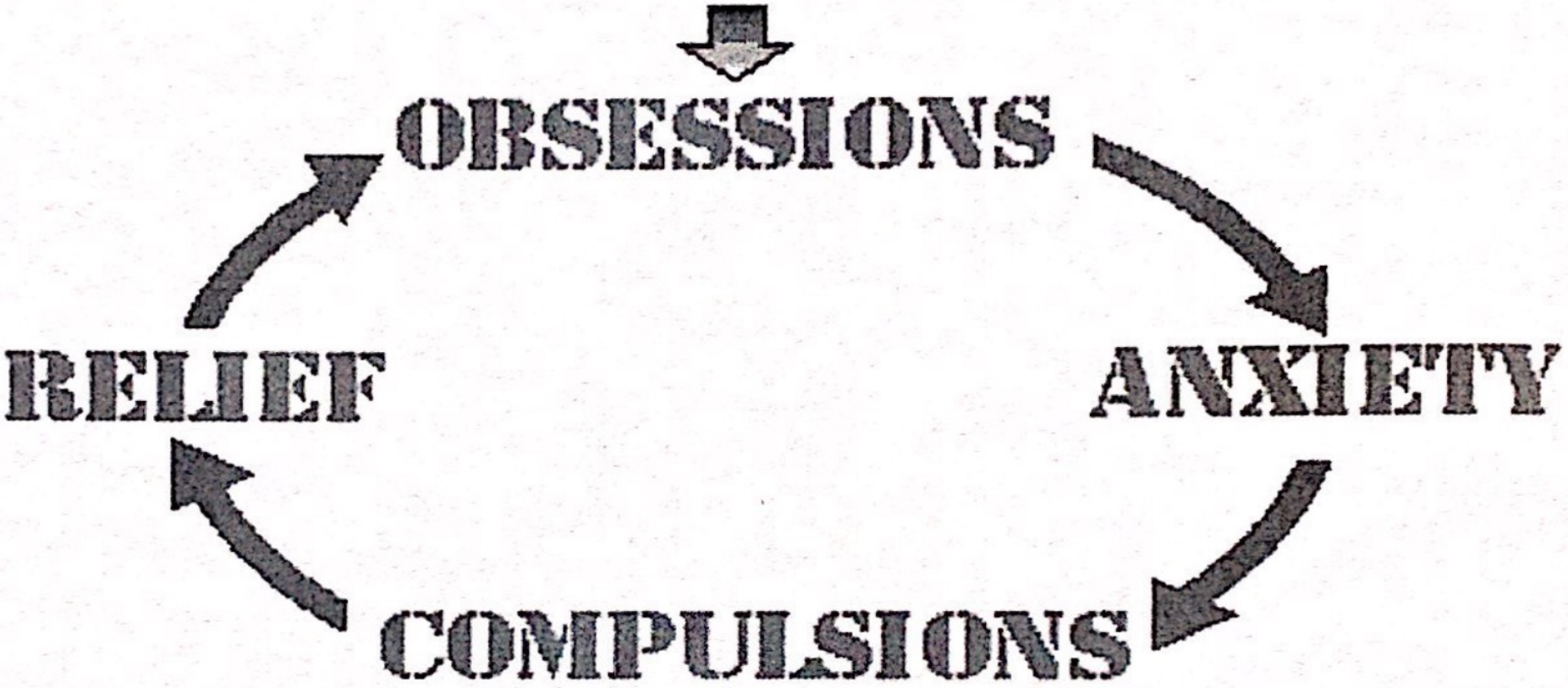
DSM-5

- Either obsessions and or compulsions must be present and cause marked distress or impairment
- Recognized as excessive or unreasonable
- Obsessions persistent intrusive inappropriate thoughts impulses, ideas, or images, KEY EGO DYSTONIC and able to recognize they are not to level of thought insertion but a product of one's own mind
- Compulsions overt repetitive behaviors or mental acts to reduce distress of obsessions

DSM-5

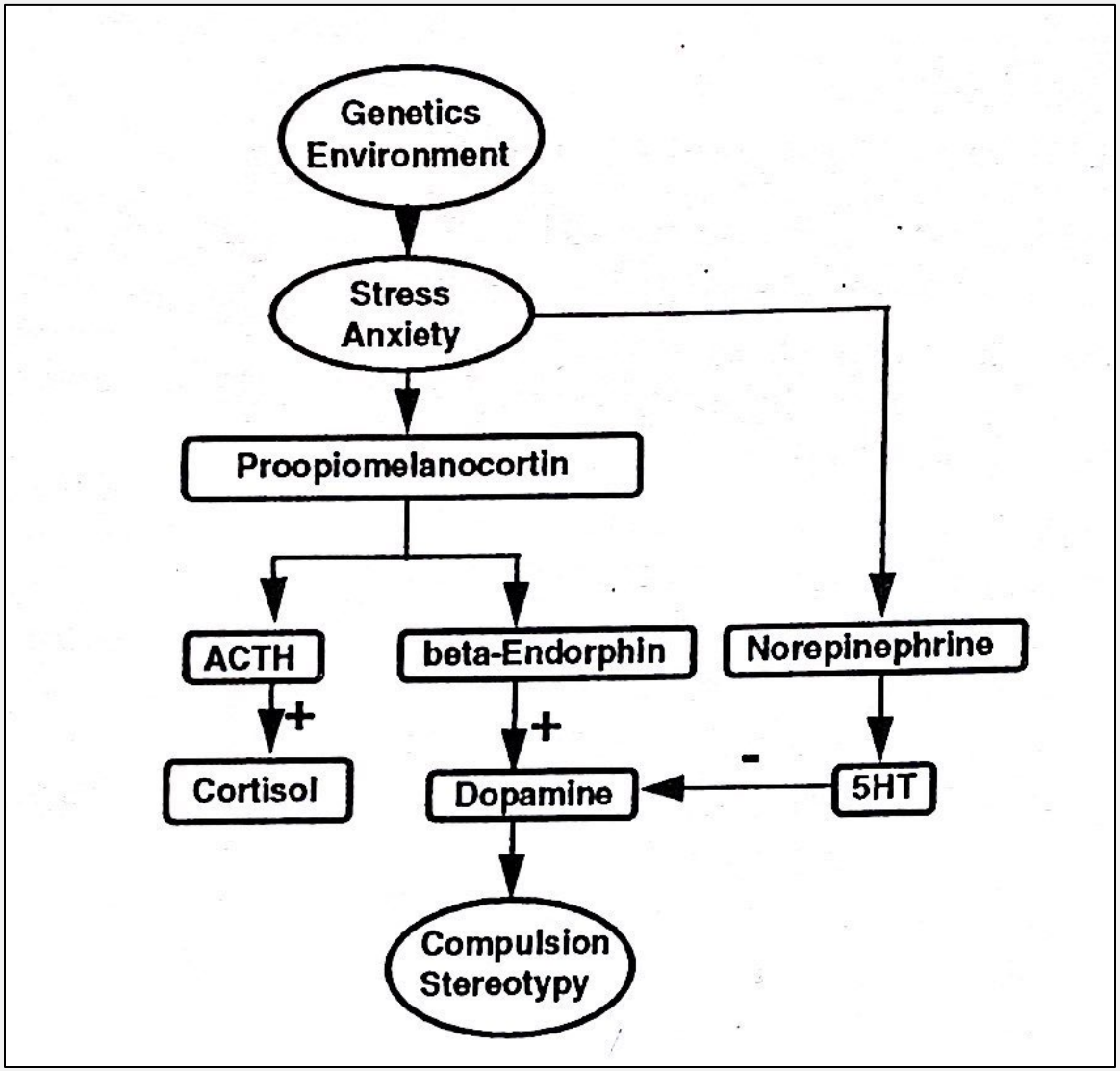
- Cause marked distress
- At least 1 hour duration per 24hrs
- Poor insight patients may require collateral information from family and or peer to quantitate time and level of dysfunction
- Not due to another axis I disorder

OCD CYCLE



Source: http://www.ocdhelp.org/ocdfacts.html

NEUROTRANSMITTERS IN COMPULSIVE BEHAVIOR



Stein et al 94

Y-BOCS Symptom Checklist
(Yale-Brown Obsessive Compulsive Scale*)

Administering the Y-BOCS Symptom Checklist and Severity Ratings.

1. Establish the diagnosis of obsessive compulsive disorder.
2. Using the Y-BOCS Symptom Checklist below, ascertain current and past symptoms.
3. Next, administer the 10-item Y-BOCS severity ratings (other form) to assess the severity of the OCD during the last week.
4. Readminister the Y-BOCS Severity Rating Scale to monitor progress.

Targeted Treatment for Obsessions and Compulsions

Comorbid Conditions May Mask OCD†

Patient _____ Date _____

Contamination Obsessions

Current	Past	
___	___	Concerns or disgust with bodily waste or secretions
___	___	Concerned with dirt or germs
___	___	Excessive concern with environmental contaminants
___	___	Excessive concern with household items (cleaners)
___	___	Bothered by sticky substances or residues
___	___	Concerned will get ill (eg, AIDS)
___	___	Concerned will get others ill by spreading germs
___	___	Somatic obsessions
___	___	Other _____

Sexual Obsessions

Current	Past	
___	___	Personally unacceptable sexual thoughts

Hoarding/Saving Obsessions

Current	Past	
___	___	Collects useless items, eg, old newspapers (distinquish from hobbies; concern with objects of monetary or sentimental value)
___	___	Concerned with losing or throwing out items by mistake
___	___	Other _____

Obsession With Need for Symmetry or Exactness

Current	Past	
___	___	Bothered by things not being lined up or being in order
___	___	Other _____

Aggressive Obsessions

Current	Past	
___	___	Violent or horrific images
___	___	Fear will act on unwanted impulses (eg, to stab friend)
___	___	Fear will harm others because not careful enough (eg, hit and run motor vehicle accident, putting poison in food)
___	___	Fear will be responsible for something else terrible happening (eg, fire, burglary)
___	___	Other _____

Religious Obsessions (Scrupulosity)

Current	Past	
___	___	Concerned with sacrilege and blasphemy
___	___	Excess concern with right and wrong, morality

Pathological Doubt

Current	Past	
___	___	After completing routine activities, doubts whether performed or not (eg, whether signed check to pay bill)
___	___	Other _____

Other Obsessions

Current	Past	
___	___	Superstitious fears (eg, lucky or unlucky numbers or colors)
___	___	Other _____

Cleaning/Washing Compulsions

Current Past

- ___ ___ Excessive or ritualized hand washing
- ___ ___ Excessive or ritualized showering, bathing, tooth brushing, grooming
- ___ ___ Cleaning of household items or other inanimate objects
- ___ ___ Other measures to prevent or remove contact with contaminants
- ___ ___ Other _____

Repeating Rituals

Current Past

- ___ ___ Rereading or rewriting
- ___ ___ Repeats same questions
- ___ ___ Need to repeat routine activities (eg, in and out door)
- ___ ___ Other _____

Ordering/Arranging Compulsions

Current Past

- ___ ___ Lines up clothes, canned goods, shoes in fixed order
- ___ ___ Need for symmetry (eg, shoelaces must be at same tension, socks at same height)
- ___ ___ Can't complete activity until *just right*

Other Compulsions

Current Past

- ___ ___ Mental rituals (eg, silently reciting prayers to neutralize a bad thought)
- ___ ___ Counting compulsions (eg, count ceiling tiles)
- ___ ___ Excessive list making
- ___ ___ Pathological slowness (pervades most routine activities)
- ___ ___ Need to tell, ask, confess
- ___ ___ Need to touch, tap, or rub*

Checking Compulsions

Current Past

- ___ ___ Checking locks, stove, appliances, water faucets, emergency brake
- ___ ___ Checking that did not harm others
- ___ ___ Checking that did not make mistake (eg, balancing checkbooks over and over)
- ___ ___ Checking tied to somatic obsessions (eg, checking self for signs of cancer)
- ___ ___ Other _____

Hoarding/Collecting Compulsions

Current Past

- ___ ___ Inspecting household trash and accumulating useless objects

- ___ ___ Superstitious behaviors (eg, stepping on sidewalk cracks, bedtime rituals)
- ___ ___ Asking for reassurance over and over
- ___ ___ Self-damaging behaviors*
- ___ ___ Rituals involving blinking or staring*
- ___ ___ Other _____

* May or may not be OCD phenomena.

Y-BOCS OCD Symptom Checklist

The following listing of obsessions and compulsions should be considered when evaluating a patient for OCD. Items marked "*" may or may not be OCD phenomena.

AGGRESSIVE OBSESSIONS

Fear might harm self
Fear might harm others
Violent or horrific images
Fear of blurting out obscenities or insults
Fear of doing something else embarrassing*
Fear will act on unwanted impulses (eg, to stab friend)
Fear will steal things
Fear will harm others because not careful enough (eg, hit/run MVA)
Fear will be responsible for something else terrible happening (eg, fire, burglary)
Other

CONTAMINATION OBSESSIONS

Concerns or disgust with bodily waste or secretions* (eg, urine, feces, saliva)
Concern with dirt or germs
Excessive concern with environmental contaminants (eg, asbestos, radiation, toxic waste)
Excessive concern with household items (eg, cleansers, solvents)
Excessive concern with animals (eg, hosts to insects)
Bothered by sticky substances or residues
Concerned will become ill because of contaminant
Concerned will make others ill by spreading contaminant (aggressive)
No concern with consequences of contamination other than how it might feel
Other

SEXUAL OBSESSIONS

Forbidden or perverse sexual thoughts, images, or impulses
Content involves children or incest
Content involves homosexuality*
Sexual behavior toward others (aggressive)*
Other

HOARDING/SAVING OBSESSIONS

[distinguish from hobbies and concern with objects of monetary or sentimental value]

RELIGIOUS OBSESSIONS (Scrupulosity)

Concerned with sacrilege and blasphemy
Excessive concern with right/wrong, morality
Other

OBSESSION WITH NEED FOR SYMMETRY OR EXACTNESS

Accompanied by magical thinking (eg, concerned that mother will have accident unless things are in the right place)
Not accompanied by magical thinking

MISCELLANEOUS OBSESSIONS

Need to know or remember
Fear of saying certain things
Fear of not saying the right thing
Fear of losing things
Intrusive (nonviolent) images
Intrusive nonsense sounds, words, or music
Bothered by certain sounds/noises*
Lucky/unlucky numbers
Colors with special significance
Superstitious fears
Other

SOMATIC OBSESSIONS

Concern with illness or disease*
Excessive concern with body part or aspect of appearance*
Other

CLEANING/WASHING COMPULSIONS

Excessive or ritualized handwashing
Excessive or ritualized showering, bathing, toothbrushing, grooming, or toilet routine
Involves cleaning of household items or other inanimate objects
Other measures to prevent or remove contact with contaminants
Other

CHECKING COMPULSIONS

Checking locks, stove, appliances, etc.
Checking that did not/will not harm others
Checking that did not/will not harm self
Checking that nothing terrible did/will happen
Checking that did not make mistake
Checking tied to somatic obsessions
Other

REPEATING RITUALS

Rereading or rewriting
Need to repeat routine activities (eg, in/out door, up/down from chair)
Other

COUNTING COMPULSIONS

ORDERING/ARRANGING COMPULSIONS

HOARDING/COLLECTING COMPULSIONS

[distinguish from hobbies and concern with objects of monetary or sentimental value (eg, carefully reads junkmail, piles up old newspapers, sorts through garbage, collects useless objects)]

MISCELLANEOUS COMPULSIONS

Mental rituals (other than checking/counting)
Excessive listmaking
Need to tell, ask, or confess
Need to touch, tap, or rub*
Rituals involving blinking or staring*
Measures (not checking) to prevent harm to self or others or to prevent terrible consequences
Ritualized eating behaviors*
Superstitious behaviors
Other self-damaging or self-mutilating behaviors*
Other

OCD SUBGROUPS

- Most common obsessions:

  45% contamination, 42%pathological doubt, 36% somatic
- Most common compulsions:

  63%checking, 50%washing, 36%counting
- Most subjects had multiple obsessions and compulsions
- Checkers tended to be single males and early onset

(Rasmussen, 1989)

CO-MORBIDITY OCD 2 SUBGROUPS

- Flawed risk assessment group Specific and Social Phobia, eating disorders, hypochondriasis, body dysmorphic disorder
- Incompleteness group; trichotillomania, gambling, sexual addiction and paraphilias, hoarding

(Rasmussen, 1993)

CO-MORBIDITY OCD

- 50% another axis I
- Up to 70% life time incidence of major depression
- About 30% OCD patients will have both at time of presentation
- Up to 60% life time prevalence comorbid anxiety; simple phobia 22%,social phobia 18%, panic disorder 17%

CO-MORBIDITY OCD

- Axis II over 50%
- Cluster C; OCP,[recall 8 childhhood traits prodrome OCD by Rasmussen] Avoidant, Dependent
- Cluster B; Histrionic, Borderline
- Cluster A; Schizotypal[exclusion DBS poor prognosis]
- May require more intensive psychotherapy and family involvement

COMORBID CONDITIONS COMMON IN OCD

Attention-deficit/hyperactivity disorder
Body dysmorphic disorder
Dermatillomania
Eating disorders
Generalized anxiety disorder
Major depressive disorder
Panic disorder
Parent-child relational problems
Social phobia
Tic disorders
Trichotillomania

(Rasmussen, 1989)

OCD IN TOURETTE'S SYNDROME

- Common OCD symptoms can be present (germ phobias, checking, counting, hoarding)
- ”TS-OCD” more commonly associated with need for symmetry-evening things up, touching etc.
- “Impulsions” are also very common
  - Sudden onset of extreme need for a certain thing or to do a certain activity
  - Can lead to irrational behavior if need not met
  - Meltdowns or violent storms can occur

OCD IN TOURETTE'S SYNDROME

- 40 to 50% of TS/OCD patients continue to have OCD in adulthood
- Increased size of orbito-PFC and smaller caudates associated with worse OCD

Black, Michael, AACAP 2007

OCD WITH TOURETTE'S SUBGROUP

- More violent, sexual, and symmetrical obsessions
- More touching, blinking, counting compulsions

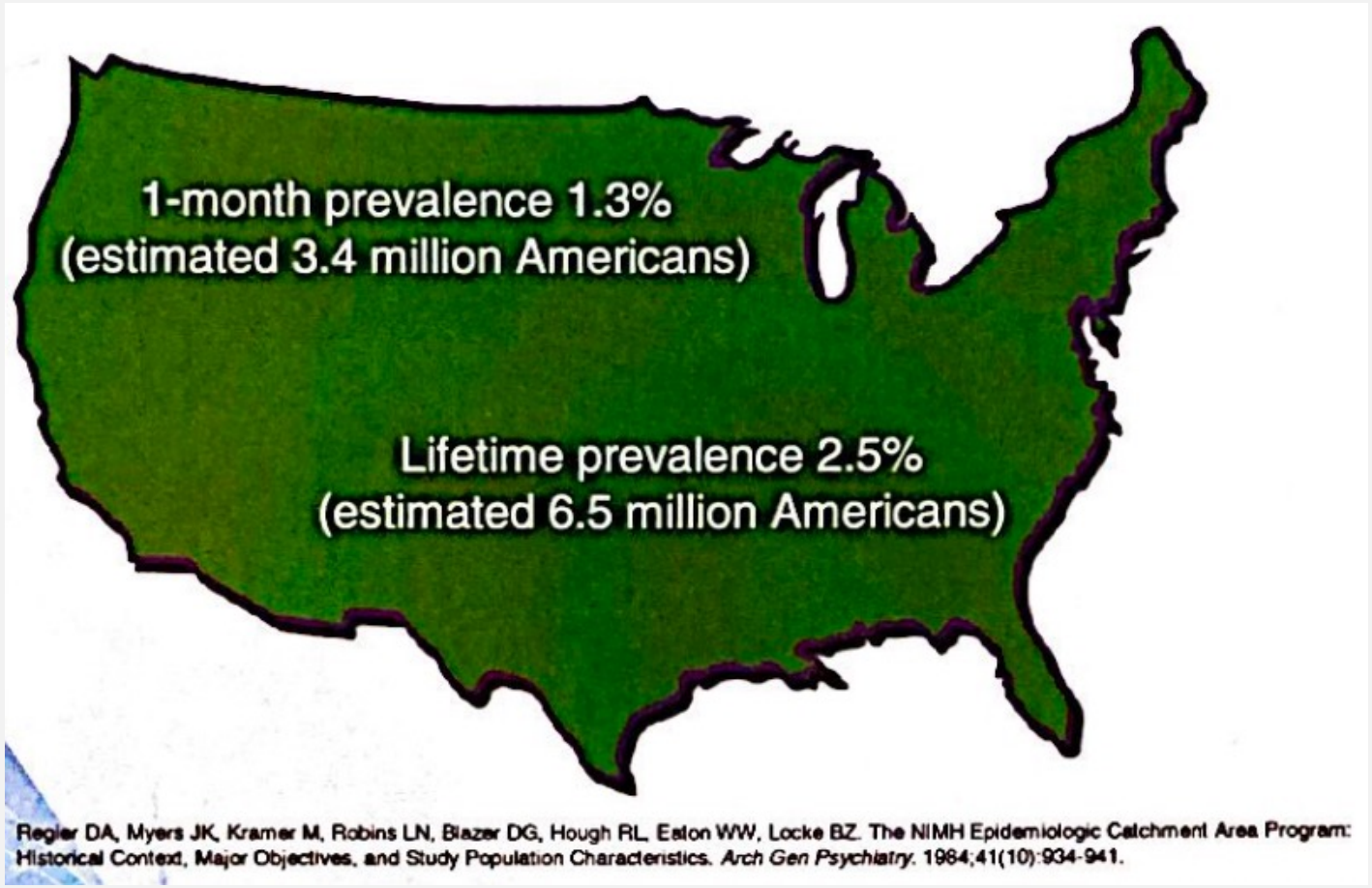
George 1993

ESTIMATED OCD PREVALENCE COMPARED WITH OTHER CONDITIONS

Condition	Current Prevalence (in millions)
Asthma	35.0
Diabetes	20.8
OCD	3.1
Epilepsy	2.7
AIDS	1.4

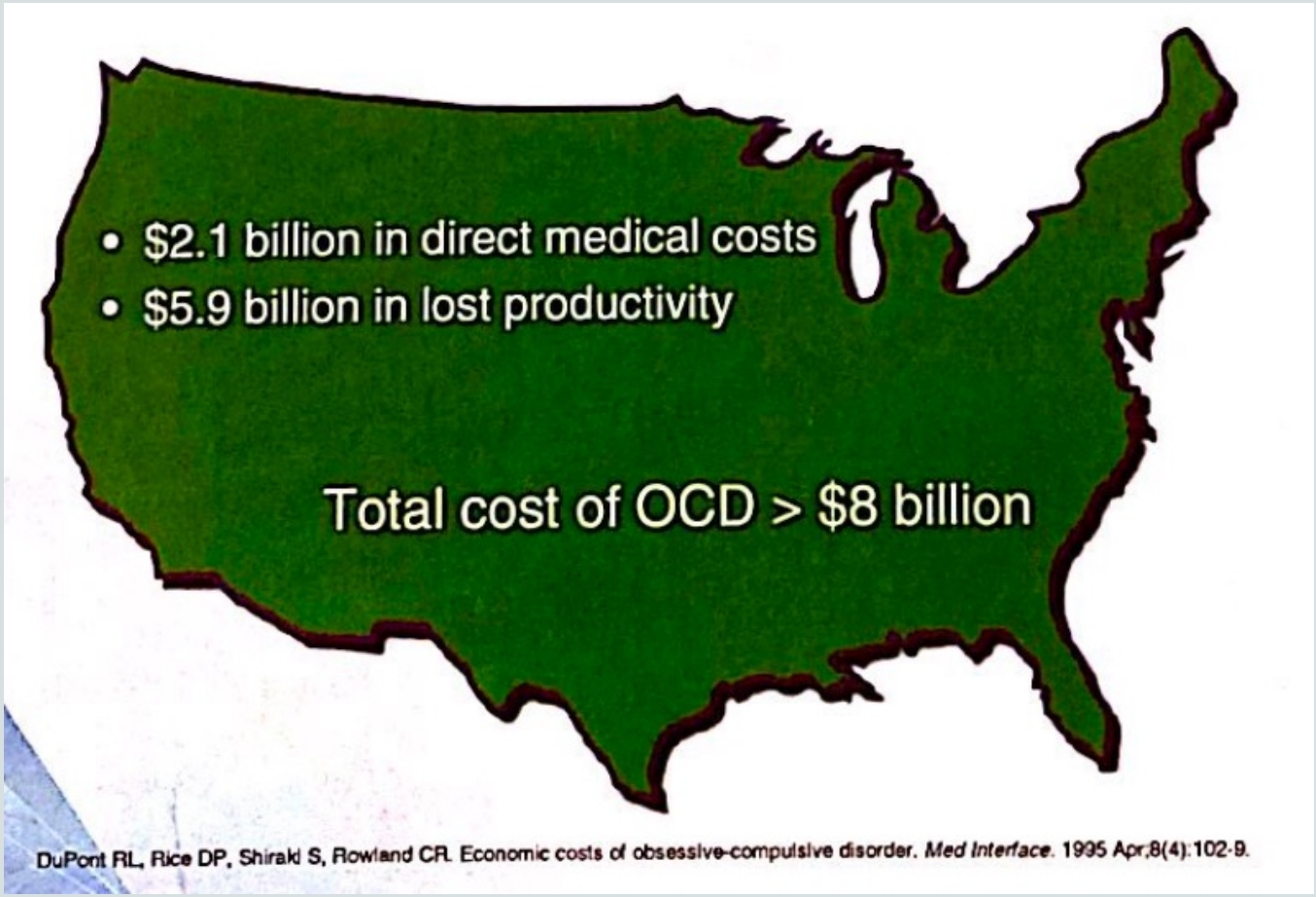
Sources: American Lung Association, American Diabetes Association, Epilepsy Foundation of America, Centers for Disease Control, The American Journal of Psychiatry

US PREVALENCE OF OCD



Regier DA, Myers JK, Kramer M, Robins LN, Blazer DG, Hough RL, Eaton WW, Locke BZ. The NIMH Epidemiologic Catchment Area Program: Historical Context, Major Objectives, and Study Population Characteristics. *Arch Gen Psychiatry*. 1984;41(10):934-941.

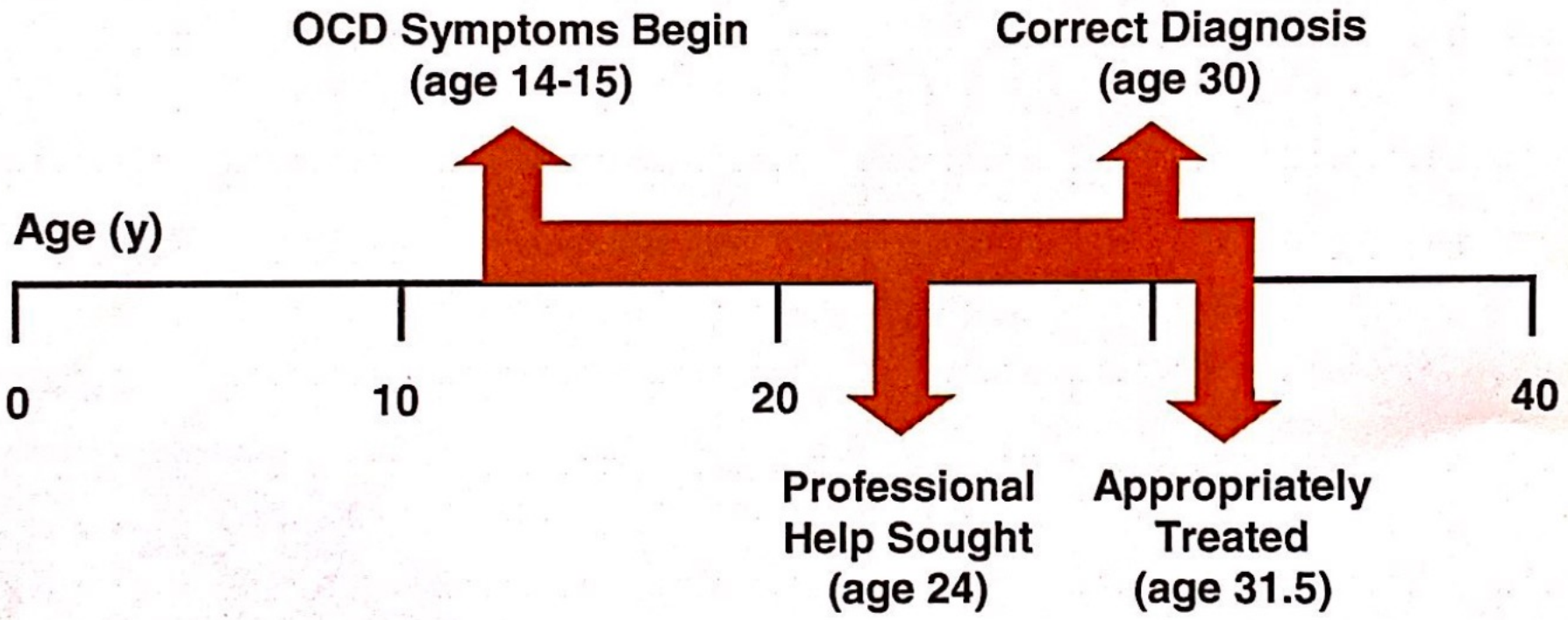
ECONOMIC IMPACT OF OCD



EPIDEMIOLOGY

- Epidemiologic data has ranked as one of the most common mental disorders 1-2.5% behind phobias substance abuse and mood disorders
- Almost as common as seizures
- Due to OCD patients being self conscious they don't openly express their specific obsessions or compulsive behavior or mental rituals instead they focus on depressed and anxious feelings unless specifically asked[screening tools and questionnaires are key]
- Mean time to first health care contact is from onset is about 8 years and up to 17yrs for the diagnosis

OCD Treatment Delay Averages 17 Years



Hollander E, Kwon JH, Stein DJ, Broatch J, Rowland CT, Himelein CA. Obsessive-compulsive and spectrum disorders overview and quality of life issues. *J Clin Psychiatry.* 1996;57 Suppl 8:3-6.

SOCIAL IMPACT OF OCD

Relationships:	Lowered self-esteem	92%
	Interfered with family relationships	73%
	Difficulty maintaining relationships	62%
Education:	Lowered academic achievement	58%
Work:	Lowered career aspirations	66%
	Work interference	47%
	Unable to work (avg. loss = 2 years)	40%
Suicide:	Attempts secondary to OCD symptoms	13%

Hollander E, Kwon JH, Stein DJ, Broatch J, Rowland CT, Himelein CA. Obsessive-compulsive and spectrum disorders overview and quality of life issues. *J Clin Psychiatry.* 1996,57 Suppl 8.3-6.

BURDEN

- Financial issues
- Disruption of family routine
- Leisure
- Interactions
- The four areas of Burden was perceived to greatest extent in married partner

Hollander 1996

EPIDEMIOLOGY

- Marital status equal incidence
- Age most develop prior to 25yoa~ 65%
- A wide Mean age onset reported 22 to 35 yoa
- Males tend to have earlier age of onset ie 17 vs 21 yoa
- Early rapid onset may have been triggered by streptococcal pharyngitis or scarlet fever and may have relapsing-remitting course PANDAS pediatric autoimmune neuropsychiatric disorders associated w/streptococcal infections now since 2010 called PANS

Rasmussen 1990

COURSE AND PROGNOSIS/ DIAGNOSTIC CHALLENGE

- Typical course is chronic with waxing waning course and 85% have chronic impairment
- Course can vary ~30% continuous and unchanging, ~20% episodic with partial remission,~25% with continuous and improvement,~10% continuous deterioration,~10% episodic with full remission

Demal 1993

TREATMENT

- Mostly serotonin mediated condition~ 50 % should respond ie 30% or greater reduction on the YBOC score from baseline to 8to12 weeks out. Very low response to placebo.
- FDS approved and DOC fluvoxamine up to 300mg at hs , paroxetine up to 60mg daily, fluoxetine 80mg daily, sertraline 200mgQD clomipramine up to 250mg at hs with a slow titration starting with 25mg at hs [proactive/prevenative start counseling to minimize dry mouth mosturizers like biotene to reduce dental caries risk

- Jefferson 95

FIRST LINE TREATMENTS FOR OCD

Treatment	Dose	Comments
Cognitive-behavioral therapy with exposure and response prevention	Average 12 to 20 sessions	To find local therapists with expertise in this modality, search the International OCD Foundation web site: https://iocdf.org
Fluoxetine	20 to 80 mg/d	Monitor for activation, insomnia. May lead to vivid dreams
Fluvoxamine	Up to 200 mg/d in children; 300 mg/d in adults in divided doses	Monitor for disinhibition/poor judgement
Sertraline	Up to 200 mg/d in children and adults	Take with food. May lead to GI discomfort
Escitalopram	Up to 40 mg/d	May lead to drowsiness and weight gain
Paroxetine	Start at 20 mg/d, increase in 10-mg intervals; maximum dose 60 mg/d	May lead to drowsiness and weight gain. Nonlinear pharmacokinetics. Most difficult to discontinue
Citalopram	Up to 40 mg/d	Higher doses require ECG monitoring
Clomipramine	Up to 300 mg/d in divided doses	Monitor ECG for QTc prolongation at baseline and every 6 months. IV clomipramine may be more effective than oral clomipramine

Source: References 2,12-14

ECG: electrocardiography; GI: gastrointestinal; OCD: obsessive-compulsive disorder

(Lovell & Bee, 2008)

PHARMACOLOGICAL PROFILE OF SRI'S

Table 1 Pharmacological Profile of SRIs

	Fluoxetine	Paroxetine	Sertraline	Fluvoxamine	Clomipramine
Half-life (hrs)	24–72	20	25	15	19–37
Metabolite	Active	Inactive	Active	Inactive	Active
Protein binding (%)	94	95	99	77	97
Uptake inhibition (Ki)[a]					
5-HT (nM)	25	1.1	7.3	6.2	7.4
NE (nM)	500	350	1,400	1,100	96
DA (nM)	4200	2000	230	>10,000	9100

[a]Lower Ki indicates higher affinity for uptake inhibition.

Source: Refs. 4,5,10,11.

(Dougherty & Rauch, 1996)

SIDE EFFECTS

SSRI

- Agitation/insomnia
- Gastrointestinal distress
- Headache
- Sexual dysfunction
- Suicide risk

TCA

- Anticholenergic dry mouth blurred vision constipation urinary hesitance lethargy
- antiadenergic postural hypotension
- Cardiac conduction prolong qtc
- Decreased seizure threshold
- Weight gain
- Sexual dysfunction
- Suicide risk

CONTROLLED TRIALS OF SRI THERAPY FOR OCD IN ADULT PATIENTS

Table 2 Controlled Trials of SRI Therapy for OCD in Adult Patients

Studies	Conditions	Results
Clomipramine (CMI) vs. Placebo or Non-SRIs (12–25)		
Karabanow, 1977 (12)	CMI vs. placebo	CMI superior to placebo
Montgomery, 1980 (13)	CMI vs. placebo crossover	CMI superior to placebo
Mavissakalin et al., 1985 (14)	CMI vs. placebo	CMI superior to placebo
Jenike, 1989 (15)	CMI vs. placebo	CMI superior to placebo
Greist et al., 1990 (16)	CMI vs. placebo	73% improved on CMI 6% improved on placebo
CMI collaborative group, 1991 (17)	CMI vs. placebo	38–44% decrease Sx with CMI 3–5% decrease Sx with placebo
Thoren et al., 1980 (18)	CMI vs. nort. vs. placebo	CMI, but not nort., superior to placebo
Ananth et al., 1981 (19)	CMI vs. amitriptyline	CMI superior to amitriptyline
Insel et al., 1983 (20)	CMI vs. clorgyline	CMI effective; clorgyline not
Zahn et al., 1984 (21)	CMI vs. clorgyline	CMI superior to clorgyline
Volavka et al., 1985 (22)	CMI vs. imipramine	CMI superior to imipramine
Cui, 1986 (23)	CMI vs. doxepin	78% improve on CMI 36% improve on doxepin
Lei, 1986 (24)	CMI vs. imipramine crossover	CMI superior to imipramine
Zhao, 1991 (25)	CMI vs. amitriptyline	95% improve on CMI 56% improve on amitriptyline
SSRIs vs. Placebo or Non-SRIs (26–34)		
Perse et al., 1987 (26)	Fluvoxamine vs. placebo	Fluvoxamine superior to placebo
Goodman et al., 1989 (27)	Fluvoxamine vs. placebo	Fluvoxamine superior to placebo
Jenike, 1990 (28)	Fluvoxamine vs. placebo	Fluvoxamine superior to placebo
Rasmussen et al., in press (29)	Fluvoxamine vs. placebo	Fluvoxamine superior to placebo
Goodman et al., 1990 (30)	Fluvoxamine vs. desipramine	Fluvoxamine superior to desipramine
Chouinard et al., 1990 (31)	Sertraline vs. placebo	Sertraline superior to placebo
Jenike et al., 1990 (32)	Sertraline vs. placebo	Sertraline superior to placebo
Greist et al., 1992 (33)	Sertraline vs. placebo	Sertraline superior to placebo
Tollefson et al., 1994 (34)	Fluoxetine vs. placebo	Fluoxetine superior to placebo
SRIs vs. SRIs (35–37)		
Den Boer et al., 1987 (35)	CMI vs. fluvoxamine	Comparable efficacy
Freeman et al., 1994 (36)	CMI vs. fluvoxamine	Comparable efficacy
Pigott et al., 1990 (37)	CMI vs. fluoxetine	Comparable efficacy

POSITIVE AND NEGATIVE MEDICATION CASE OUTCOMES

Table 1 Positive and Negative Medication Case Outcomes from 98 References Documenting Treatment Outcomes of Novel Medications in Individual OCD Patients

Drug	Neg.	Pos.
Amitriptyline	21	8
Amoxapine	1	0
Desipramine	33	3
Doxepin	13	9
Imipramine	23	3
Maprotiline	3	0
Mianserin	12	11
Nortriptyline	5	4
Trazodone	19	17
Venlafaxine	0	1
Other tricyclics (non-PSRI)	52	13
Other heterocyclics (non-PSRI)	34	0
Total heterocyclics (non-PSRI)	216	69
Clorgyline	2	2
Phenelzine	8	13
Tranylcypromine	11	5
Other MAOIs	31	7
Total MAOIs	52	27
Trazodone + MAOI	1	6
Trazodone + tryptophan	9	2
Unnamed antidepressants	14	0
Total antidepressants (non-PSRI)	292	104
Lithium	15	3
Rubidium	0	1
Total alkalis	15	4
Chlorpromazine	23	8
Fluphenazine	1	0
Haloperidol	8	2
Loxapine	1	1
Molindone	2	0
Pimozide	1	0
Perphenazine	3	0
Thioridazine	9	1
Thiothixene	2	0
Trifluoperazine	7	1
Other neuroleptics	61	1
Total neuroleptics	118	14
IV immunoglobulin	1	0
Plasmaspheresis	0	2
Prophylactic PCN	0	1
Total immunosuppressants	1	3

Drug	Neg.	Pos.
Alprazolam	15	8
Bromazepam	19	18
Chlordiazepoxide	19	10
Clonazepam	13	18
Diazepam	20	12
Lorazepam	3	0
Oxazepam	7	13
Other benzodiazepines	100	1
Total benzodiazepines	196	80
Amytal	1	0
Buspirone	21	7
Clonidine	23	6
Clonidine/low-dose clomipramine	0	3
Diphenhydramine	19	7
Hydroxyzine	1	0
Meprobamate	1	0
Propranolol	1	0
Unnamed sedative/anxiolytics	18	0
Total other sedative/anxiolytics	85	23
Bromocriptine	1	3
d-Amphetamine	0	4
Ergot mesylates	1	0
LSD	0	1
Methylphenidate	4	0
Sernyl PCP	3	2
Total stimulants/hallucinogens	9	10
Cyproterone	1	6
Estrogen	1	1
Levothyroxine	2	0
Oxytocin	10	2
Tryptophan/pyridoxine/ ± niacin	0	8
Pyridoxine	0	1
ddAVP	3	0
Vasopressin	3	0
Total hormones	20	18
Carbamazepine	17	3
Diphenylhydantoin	1	0
Valproic acid	1	0
Dilantin	4	0
Total anticonvulsants	23	3

Totals

No. pts. having neg. trials	512	No. pts. having pos. trials	390
Neg. trials (non-PSRI)	759	Pos. trials (non-PSRI)	259
Total PSRI failures in the patients	174	Total PSRI successes in these patients	115
Total neg. trials	933	*Total pos. trials*	374

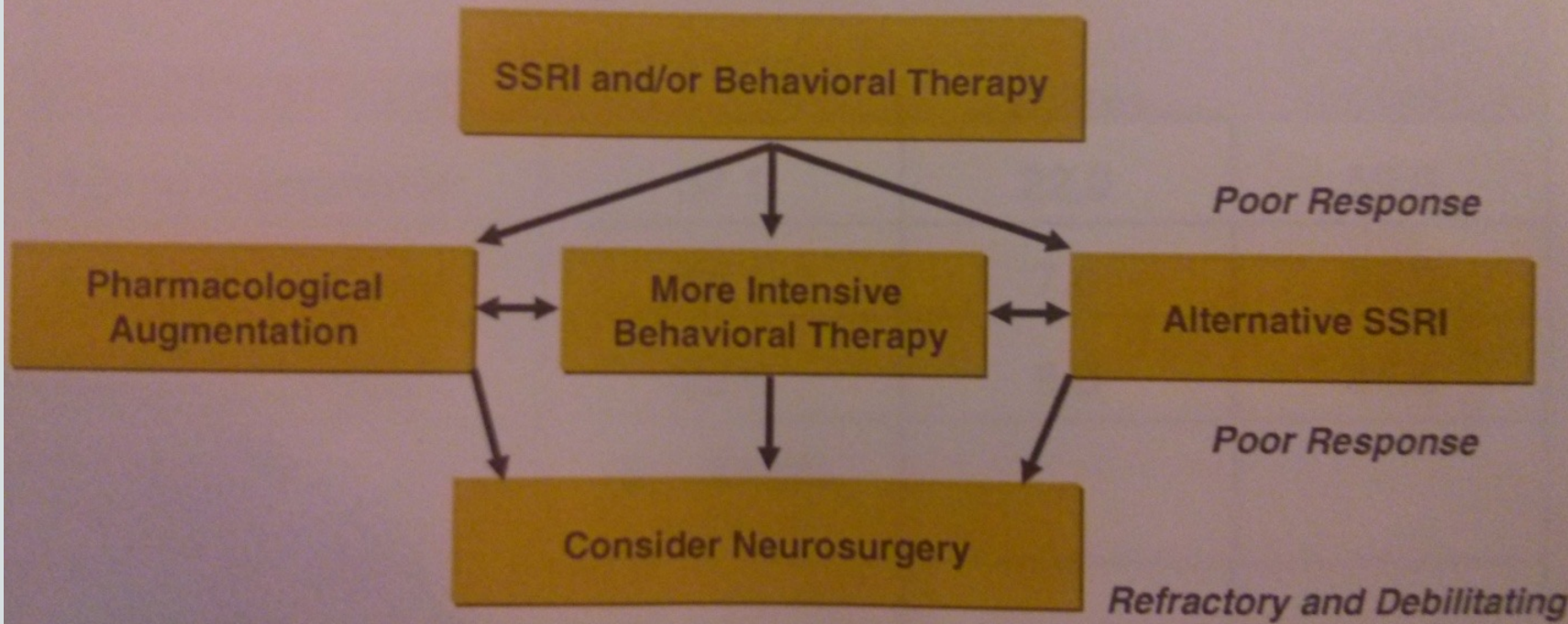
(Dougherty & Rauch, 1996)

CONTROLLED TRIALS OF SRI THERAPY FOR OCD IN CHILDREN AND ADOLESCENTS

Table 3 Controlled Trials of SRI Therapy for OCD in Children and Adolescents

Study	Conditions	Results
Flament et al., 1985 (38,39)	CMI vs. placebo	CMI superior to placebo
Devaugh-Geiss et al., 1992 (40)	CMI vs. placebo	37% decrease Sx on CMI 8% decrease Sx on placebo
Rapoport et al., 1980 (41)	CMI vs. DMI vs. placebo	No differences
Leonard et al., 1988 (42)	CMI vs. DMI	CMI superior to DMI
Leonard et al., 1991 (43)	CMI substituted with DMI in 50%	89% on DMI relapsed 18% on CMI relapsed
Riddle et al., 1992 (44)	Fluoxetine vs. placebo	Fluoxetine superior to placebo

One Treatment Algorithm for OCD



(Hollander, 1995)

TREATMENTS

- Tics and Tourette's dopamine mediated and may need to augment with antipsychotics and document baseline movements and vocalizations intensity frequency duration amount of disability family involvement and feedback could be very helpful especially if patient has been chronic and has poor insight

PANDAS/PANS

- Attempts to treat have been with Plasmaphoresis and gamaglobulin
- Studies of prophylactic antibiotics have been done

OCD CENTER POLL: TREATMENT RESPONSE FREQUENCIES

Table 2 OCD Center Poll: Treatment Response Frequencies

Treatment drug	No. of centers	No. of patients	% favorable
Analysis for all responses			
Tryptophan[a]	4	117	60
i.v. clomipramine	2	17	47
Antistreptococcal rx	3	29	38
Clonazepam[a]	10	123	30
Diphenhydramine[a]	2	29	24
Valproate[a]	3	26	23
Buspirone[a]	8	121	19
MAOIs[a]	6	79	19
d-Amphetamine	3	26	19
Clonidine	5	49	18
Carbamazepine	2	12	17
Neuroleptics[a]	6	69	11
Venlafaxine[a]	7	56	11
Trazodone[a]	7	115	9
Alprazolam	5	85	8
Lithium	6	46	0
Methylphenidate	3	17	0
Bupropion	3	15	0
Benzodiazepines	1	10	0
Oxytocin	2	8	0
Bromocriptine	2	2	0
Ondansetron	1	1	0
Other (fenfluramine)[b]	1	20	45
Totals	*12*	*1072*	*22*
Reanalysis without extraordinary responses			
Clonazepam	9	95	23
MAOIs	5	59	10
Venlafaxine	6	46	7
Buspirone	7	81	6
Trazodone	6	95	5
Neuroleptics	5	49	4
Tryptophan	3	17	0
Valproate	2	6	0
Diphenhydramine	1	3	0
Reanalyzed totals	*12*	*768*	*11*

12 centers estimated the no. of patients treated with the listed medications and, for each drug, the percentage of trials with favorable outcomes, defined as response equal to or better than the typical favorable response to climipramine. Dosage information was not given.

[a]Response rate extraordinarily affected by results from one center.

[b]Additional novel treatment medication reported by one center.

(Dougherty & Rauch, 1996)

MECHANISM OF ACTION AND COMMON USES FOR ALTERNATIVE AGENTS

Agent	Mechanism	Common uses
N-acetylcysteine	Role in the release of glutamate by modulating the cysteine-glutamate antiporter	Antioxidant to treat acetaminophen overdose
Memantine	Low-affinity antagonist of extrasynaptic NMDA glutamate receptors	Delay cognitive decline in patients with Alzheimer's disease
Ketamine	More potent noncompetitive antagonist of the NMDA receptor than memantine	Anesthetic. Drug of abuse
Topiramate	Directly inhibits AMPA/kainate glutamate receptors	Prevent seizures and headaches
Lamotrigine	Reduce glutamate outflow through inhibition of certain presynaptic voltage-gated sodium channels	Antiepileptic and mood stabilizer
D-cycloserine	Agonist at the glycine site on the NMDA receptor	Animal studies on learning, eg, fear extinction

AMPA: α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid; NMDA: *N*-methyl-D-aspartate

(Rasmussen, 1989)

LITERATURE SUMMARY OF AUGMENTATION STRATEGIES

Beneficial as augmentation to SSRI	Mixed results	Not beneficial as augmentation or monotherapy	Helpful early in treatment
Memantine	*N*-acetylcysteine	Benzodiazepines	D-cycloserine
Lamotrigine	Topiramate		
	Ketamine		

SSRI: selective serotonin reuptake inhibitor

(Rasmussen, 1989)

BEHAVIROAL TREATMENT IMPLEMENTATION

1. psychoeducation w/ pt and significant other about OCD including etiologies, mechanisms responsible for maintenance of the disorder
2. rationale for and description of the components of ERP[exposure response prevention] in BT and setting of realistic treatment expectations; citation of work demonstrating that BT serves as biological treatment in that its efficacy and demonstrated changes in brain are comparable to those on meds

BEHAVIORAL TREATMENT IMPLEMENTATION

3. contract
4. ERP with enlistment of family members to serve as BT co-therapists
5. design daily homework
6. termination
7. relapse-prevention strategies
8. booster sessions

SUBJECTIVE UNITS OF DISCOMFORT SCALE

Table 1 Case 1: Anxiety Hierarchy

Situation	SUDS level
Touching office trashcan	60
Touching street trashcan	65
Eating fruit brought at the local store	70
Selection of damaged-looking packages at the market	73
Drinking directly from soda cans or bottles	75
Walking by high buildings with open windows	75
Touching toilet seat at home	75
Eating in a restaurant	78
Walking in the street with an open mouth passing by an ill-looking person	79
Touching the toilet seat at the therapist's office	80
Touching his own genitals	85
Touching toilet seat in dirty public bathrooms	85
Walking inside a gay bar with his mouth open	90
Opening and closing home doors without double-checking	95
Touching homeless person while giving money	97
Sitting close to and rubbing against an underweight, ill-looking person	99
Visiting infectious-disease department in a large hospital	100

(Rasmussen, 1989)

PSYCHOTHERAPEUTIC TREATMENT

- Cognitive Behavioral Therapy- realign cognitive distortions to minimize catastrophic thinking
- Exposure Response Psychotherapy~ 75% response after ten sessions graded exposure to fears then delay of compulsions until anxiety subsides over time.

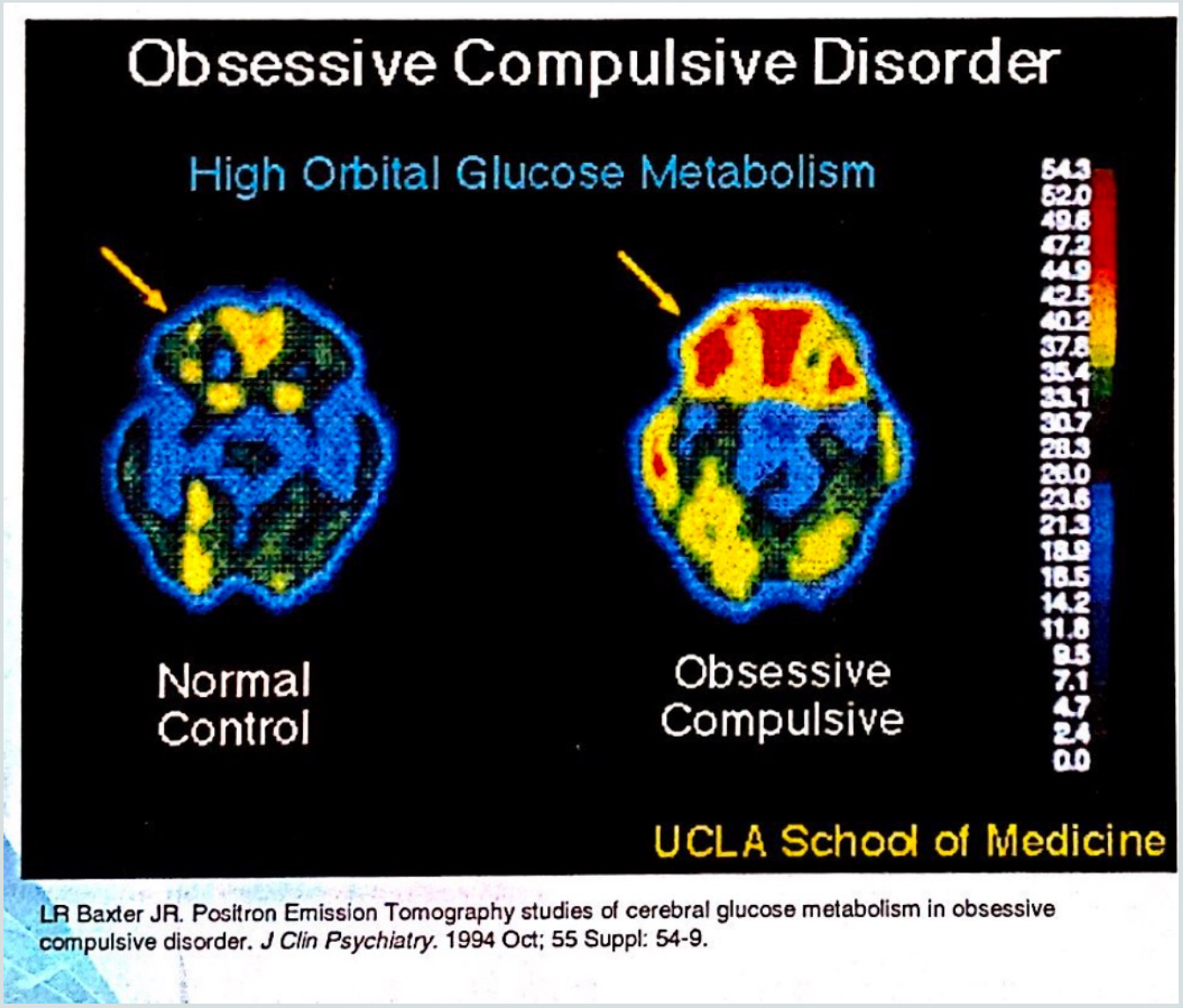
(Foa, 1985)

PET CHANGES IN RESPONDER GROUPS

- Fluoxetinne 7out of 9 responded after 10 weeks treatment
- ERP BT group 6 out of 9 responded after twice weekly 1hour sessions
- PET showed decreased glucose activity near normal right caudate 5 nonresponders had no change

(Baxter et al. Arch Gen Psych 1992)

FUNCTIONAL BRAIN IMAGING OCD: FDG-PET IN "RESTING STATE"



LR Baxter JR. Positron Emission Tomography studies of cerebral glucose metabolism in obsessive compulsive disorder. *J Clin Psychiatry.* 1994 Oct; 55 Suppl: 54-9.

NEUROPSYCHIATRIC SEQUELAE OF COVID-19

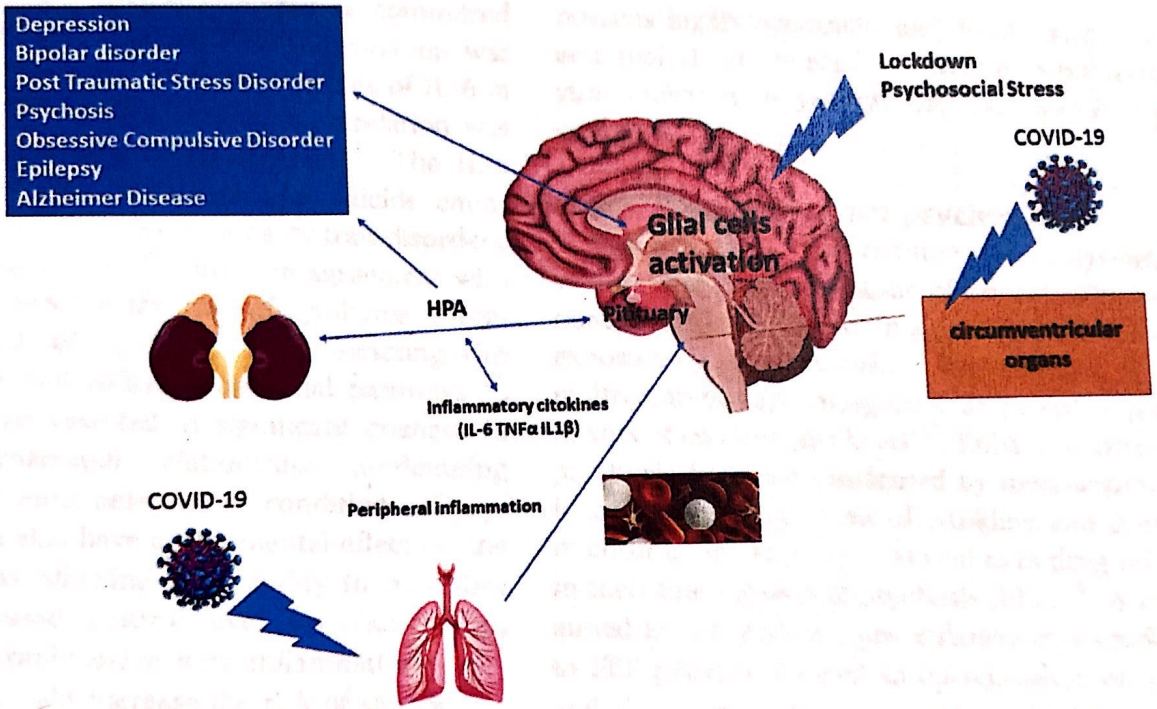


Fig. 1 Neuropsychiatric sequelae of COVID-19. The SARS-COV-2 enters the body through various routes and causes systemic and tissue inflammation. Systemic inflammation compromises the blood-brain barrier (BBB) and floods the brain with pro-inflammatory factors. The virus may also cross the BBB at the level of the circumventricular organs or through retrograde axonal transport via olfactory bulb and infect the brain, thus instigating reactive gliosis, which leads to an increased production and secretion of cytokines and other pro-inflammatory factors. The combination of systemic inflammation, hypoxia resulting from respiratory failure and neuroinflammation may trigger or exacerbate psychiatric diseases.

Steardo et al. Translational Psychiatry, 2020

When patients say they are anxious or depressed, consider OCD

Yale-Brown Obsessive Compulsive Scale (Y-BOCS)

Patient's Name

Date of 1st report

Therapy

Date of this report

Obsession Rating Scale

Circle appropriate score

Item		None	Mild	Moderate	Severe	Extreme
1.	Time spent on Obsessions	0 hrs/day	0-1 hrs/day	1-3 hrs/day	3-8 hrs/day	>8 hrs/day
	Score	0	1	2	3	4
2.	Interference from Obsessions	None	Mild	Manageable	Severe	Incapacitating
	Score	0	1	2	3	4
3.	Distress from Obsessions	None	Mild	Moderate	Severe	Disabling
	Score	0	1	2	3	4
4.	Resistance to Obsessions	Always resists	Much resistance	Some resistance	Often yields	Completely yields
	Score	0	1	2	3	4
5.	Control over Obsessions	Complete control	Much control	Moderate control	Little control	No control
	Score	0	1	2	3	4

Obsession subtotal (add items 1-5) ☐

Compulsion Rating Scale

Circle appropriate score

Item		None	Mild	Moderate	Severe	Extreme
6.	Time spent on Compulsions	0 hrs/day	0-1 hrs/day	1-3 hrs/day	3-8 hrs/day	>8 hrs/day
	Score	0	1	2	3	4
7.	Interference from Compulsions	None	Mild	Manageable	Severe	Incapacitating
	Score	0	1	2	3	4
8.	Distress from Compulsions	None	Mild	Moderate	Severe	Disabling
	Score	0	1	2	3	4
9.	Resistance to Compulsions	Always resists	Much resistance	Some resistance	Often yields	Completely yields
	Score	0	1	2	3	4
10.	Control over Compulsions	Complete control	Much control	Moderate control	Little control	No control
		0	1	2	3	4

Compulsion subtotal (add items 6-10) ☐

Y-BOCS total (add items 1-10) ☐

TOTAL Y-BOCS SCORE: RANGE OF OCD SEVERITY

0-7: Subclinical **8-15:** Mild **16-23:** Moderate **24-31:** Severe **32-40:** Extreme

The main function of the Y-BOCS scale is to measure t
severity of OCD symptoms

Obsessions and compulsions are evaluated with respe

- Time
- Interference with function
- Distress
- Resistance to giving in to the obsessions or compulsio
  - The more they give in, the higher the score
    - 4 / give in completely
    - 3 / sometimes try to resist, but not often
    - 2 / try to resist some of the time
    - 1 / usually try to resist
    - 0 / always try to resist
- Control

Y-BOCS Scores and Symptom Severity

Total Score (Range 0-40)	Symptom Severity
10-18	Mild
18-29	Moderate
30+	Severe

See supplements section for a copy of the Y-BOCS scale.

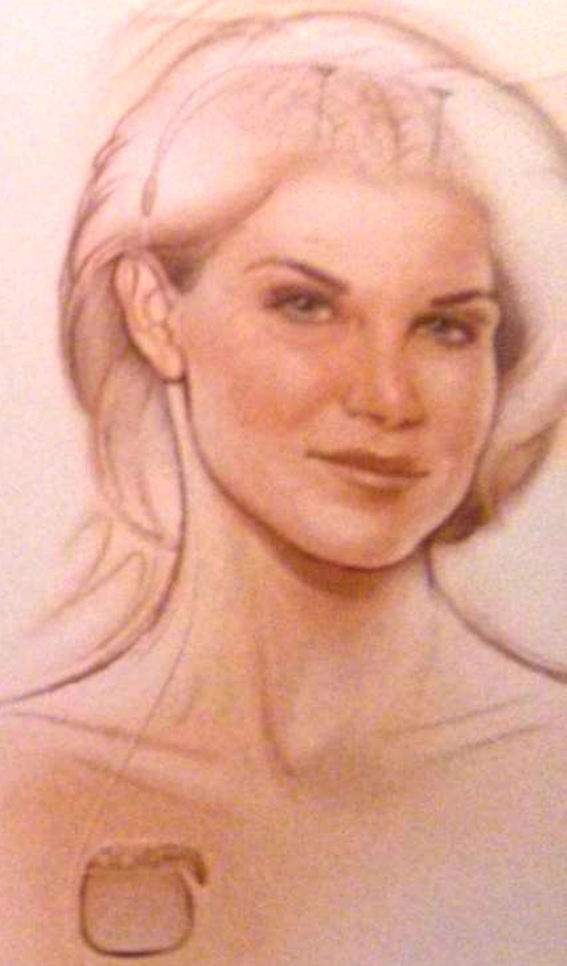
The Expert Consensus Guideline Series: Treatment of Obsessive-Compulsive Disorder, *J Clin Psychiatry*. 1997;58 Suppl 4.

TREATMENT RESISTANT

- Severe OCD scores greater than 30 on YBOC with max dose fluvoxamine and augmentation attempts with clomipramine and at least 6months cognitive behavioral therapy documented prior to being considered a possible candidate for deep brain stimulation
- Two prior adequate ssri FDA approved and 25% or less improvement on YBOC

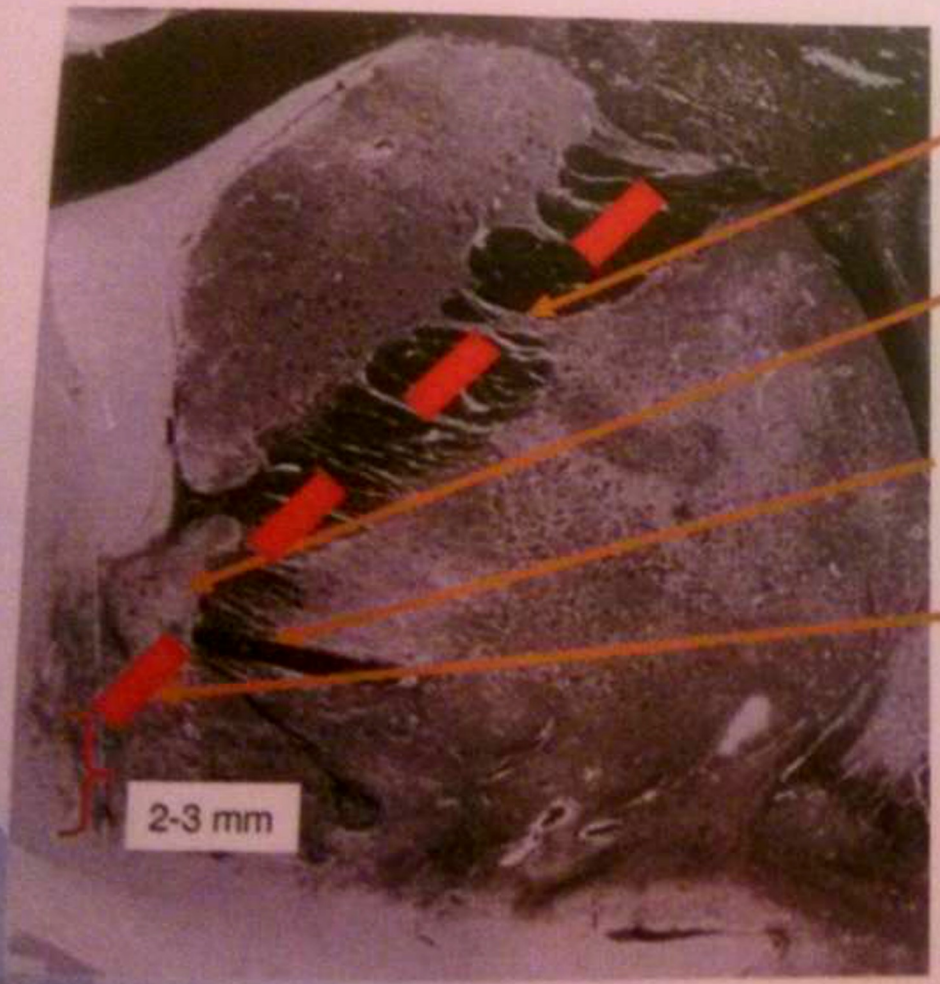
FDA Approved Indication Statement

"The Medtronic Reclaim DBS Therapy is indicated for the bilateral stimulation of the anterior limb of the internal capsule (AIC) as an adjunct to medications and as an alternative to anterior capsulotomy for the treatment of chronic, severe, treatment resistant Obsessive-Compulsive Disorder (OCD) in patients who have failed at least 3 Selective serotonin reuptake inhibitors (SSRIs)."



Targeting

The preferred target (space between contacts 0 and 1) is the junction of the anterior limb of the internal capsule (AIC) with the anterior edge of the anterior commissure (AC)



AIC

Initial Targeting Landmark
(AC – IC junction)

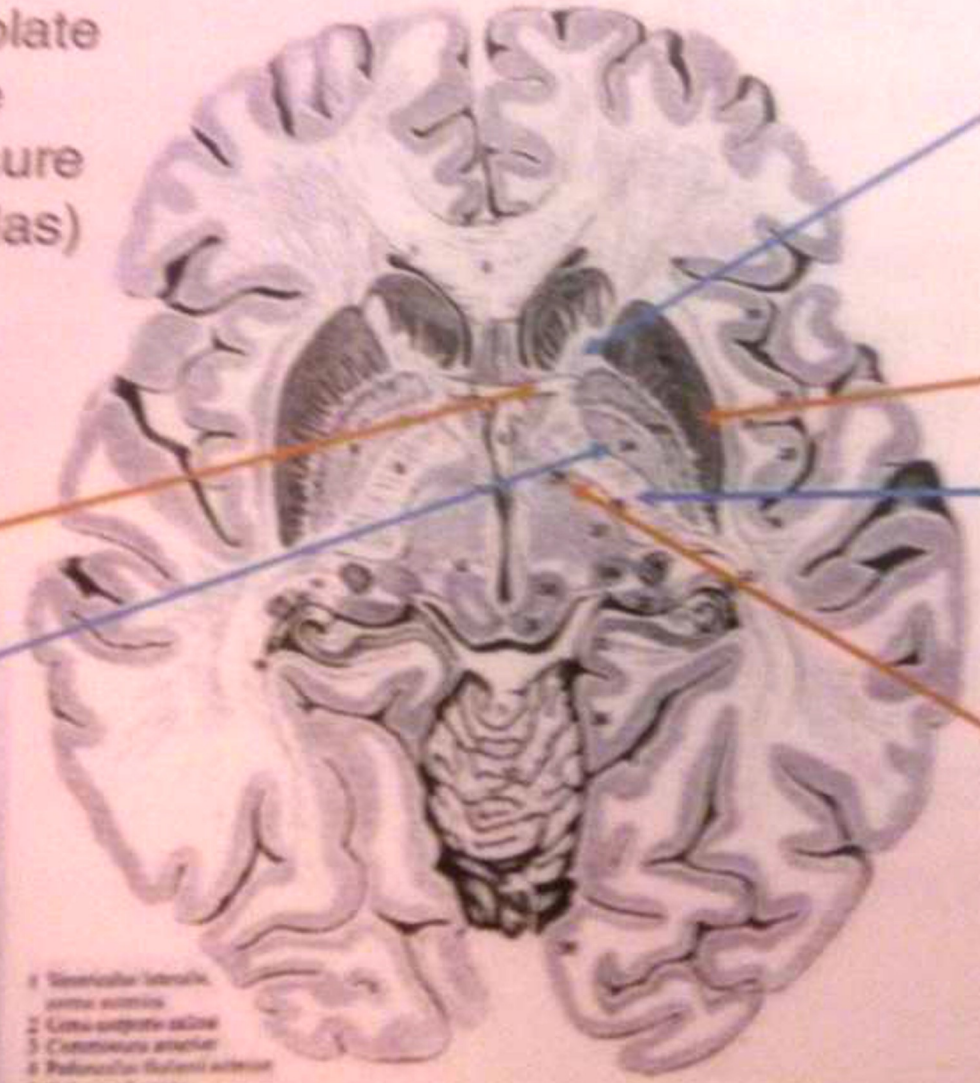
AC

Final Target

Final target one contact
below the AC-IC junction

Surrounding Neuroanatomical Structures

Axial-horizontal plate at the level of the anterior commissure (Nieuwenhuys atlas)



Anterior Limb of the Internal Capsule

Putamen

Posterior Limb of the Internal Capsule

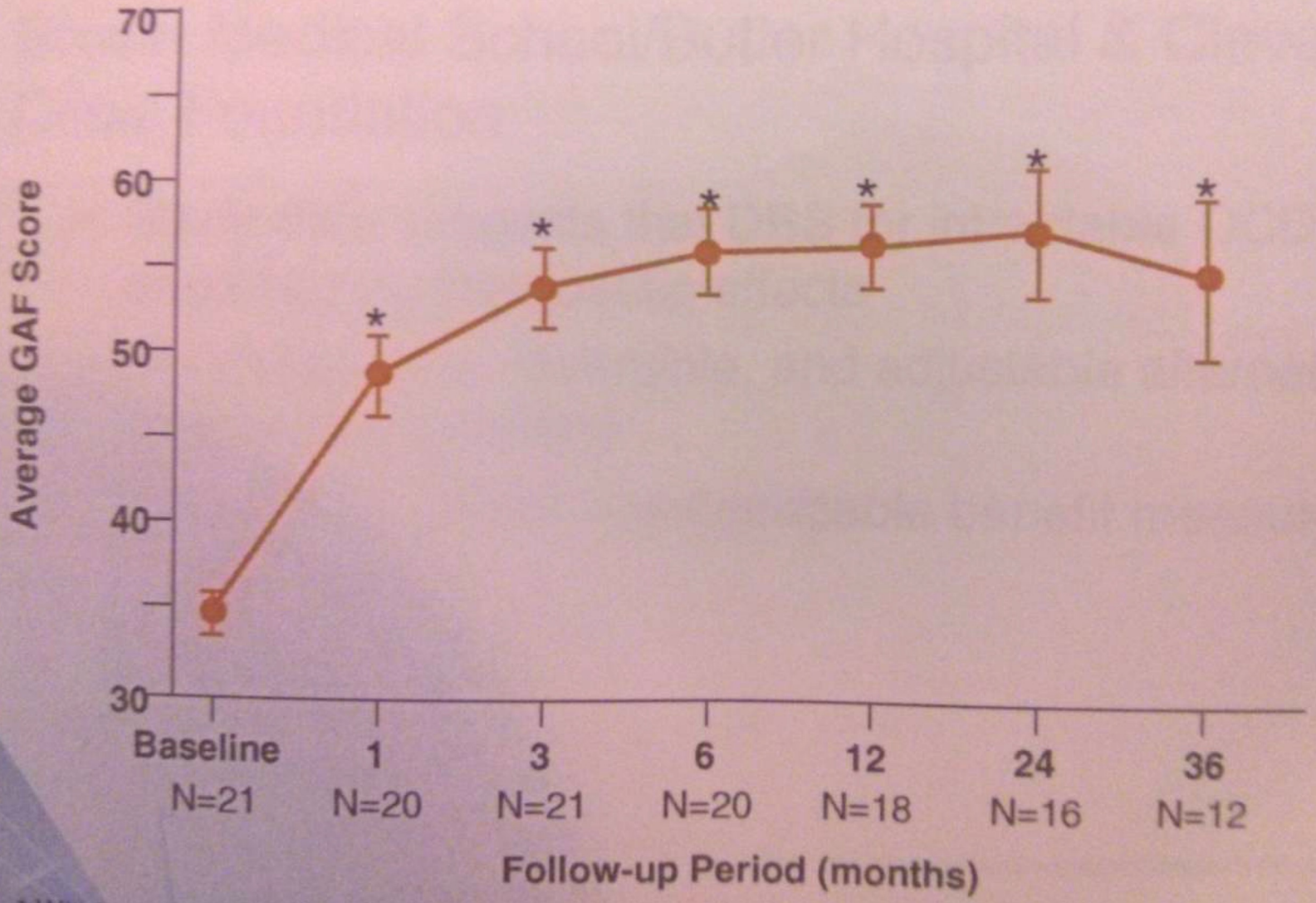
Zona Incerta

Anterior Commissure

GPi

GAF Scale

Improvement in Score with DBS Follow-up Study Results



3 MYTHS OCD DISPELLED

- 1. Common estimated 5 million Americans suffer
- 2. Very treatable with medication alone or with behavior therapy
- 3. Neurochemical and neuroanatomical driven more than psychologically driven

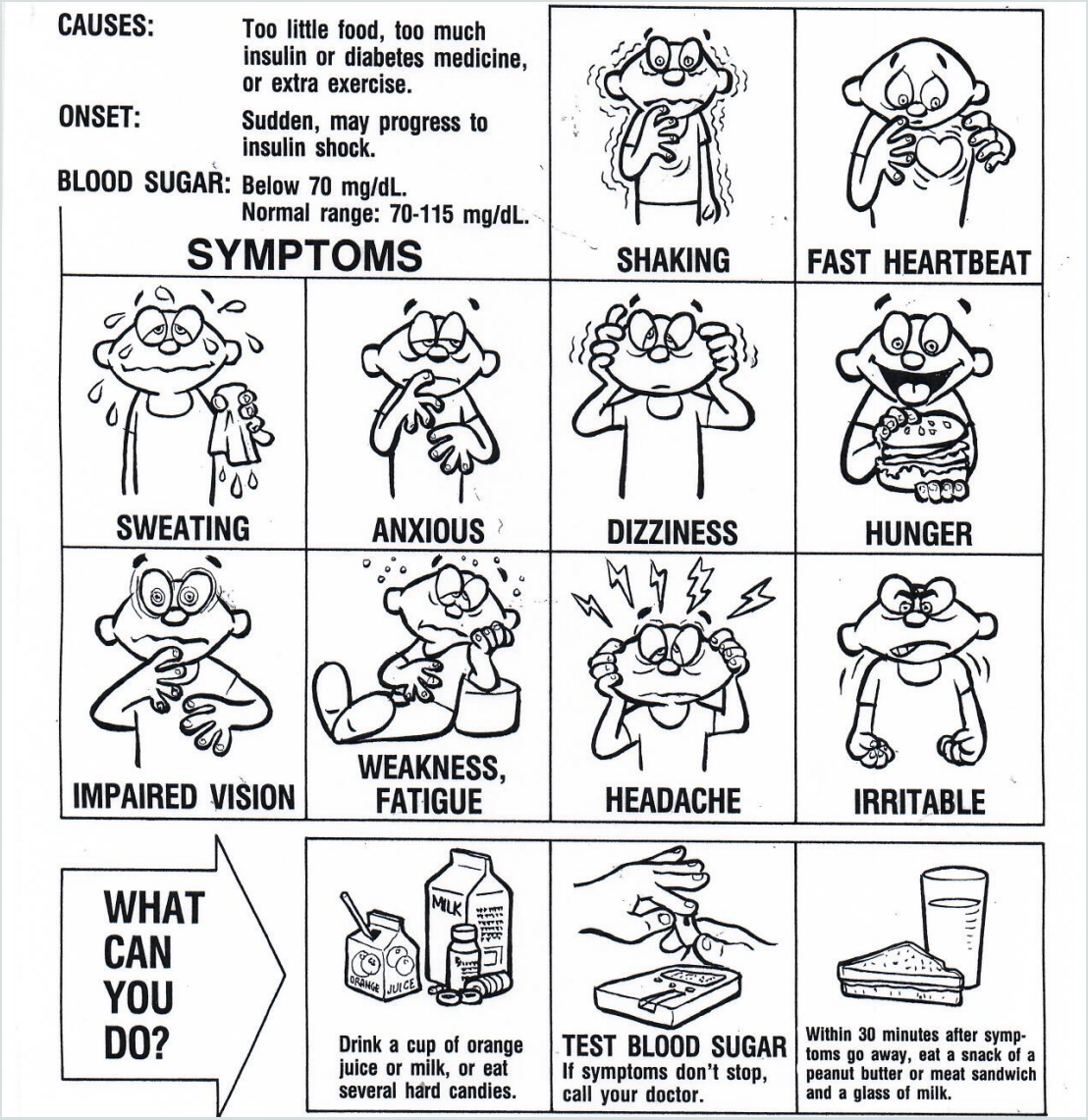
CASE STUDY

- 35-year-old divorced white female
- Diagnosis bipolar I manic episode
- August of 2021 she was arrested for speeding and reckless driving
- Evaluated in ER and medically cleared for in-patient psychiatric unit stay
- Labs checked in ER: CBC, CMP, UA, UDS- all negative
- Started on Valproic Acid 1000mg hs and Quetiapine 25mg hs
- Mood stabilized, but continued to have panic symptoms so started on Citalopram
- D/C' d after 3 days to outpatient follow-up
- Patient presented to my office c/o drowsiness, mental fogginess, fatigue, 10 lb weight gain, and continued panic/anxiety symptoms (heart racing, diaphoresis, tremors, weakness in the knees, dizzy, blurred vision, tinnitus, nausea all lasting up to two hours)

CASE STUDY

- Initial Visit:
- Diagnosed comorbid OCD through screening tool (Y-BOCS score 34)
- Decreased Quetiapine to 12.5 mg PRN HS for sleep and added fluvoxamine 25mg hs
- Continued Valproic Acid
- Ordered lab (2 hr ogtt, 2 hr c-peptide, Depakote level, venous ammonia level, b12, folate, homocysteine, vitamin d, ferritin, magnesium)
- Recommended individual CBT
- Follow-Up Visit:
- She started CBT with therapist and felt she gained insight into condition of OCD and Bipolar
- Reviewed lab results- significant glycemic control issues, hyperinsulinemia, low folic acid, elevated homocysteine, low magnesium, low vitamin D, elevated ammonia
- Started Lamictal 25mg qod
- D/C' d citalopram, started n-acetylcysteine 600mg BID, L-methylfolate 15mg daily, ferrous sulfate 65mg daily, vitamin D 10,000 iu daily

HYPOGLYCEMIA



BEHAVIORAL TREATMENT IMPLEMENTATION

BEHAVIORAL TREATMENT IMPLEMENTATION

The necessary ingredients of behavior therapy following assessment, diagnostic determination, and establishment of a hierarchy include:

1. Psychoeducation with patient and/or significant others about OCD, including possible etiologies, mechanisms responsible for maintenance of the disorder, and research findings
2. Rationale for and description of the components of ERP in BT and the setting of realistic treatment expectations; citation of work demonstrating that BT serves as a biological treatment in that its efficacy and demonstrated changes in the brain are comparable to those of pharmacological treatment
3. A behavioral contract between patient and therapist
4. ERP with enlistment of family members, when available or clinically indicated, to serve as BT cotherapists; individualized BT sessions for sufficient habituation to occur
5. Design of daily homework
6. Termination
7. Relapse-prevention strategies
8. Booster sessions

"GUIDELINES TO LIVING WITH OCD" FROM *LEARNING TO LIVE WITH OCD*

1. Learn to recognize the signals that indicate a person is having problems.
2. Modify expectations during stressful times.
3. Measure progress according to the person's level of functioning.
4. Don't make day-to-day comparisons.
5. Give recognition for "small" improvements.
6. Create a strong supportive home environment.
7. Keep communication clear and simple.
8. Stick to a behavioral contract.
9. Set limits, yet be sensitive to the person's mood.
10. Keep your family routine "normal".
11. Use humor.
12. Support the person's medication regimen.
13. Make separate time for other family members.
14. Be flexible!

(Van Noppen et al. 1991)

THE TWELVE TRADITIONS OF OBSESSIVE COMPULSIVE ANONYMOUS

Table 2 The Twelve Traditions of Obsessive Compulsive Anonymous

1. Our common welfare should come first; personal recovery depends on OCA unity.
2. For our group purpose there is but one ultimate authority—a loving God as He may express Himself in our group conscience. Our leaders are but trusted servants; they do not govern.
3. The only requirement for OCA membership is a desire to recover from Obsessive Compulsive Disorder.
4. Each group should be autonomous except in matters affecting other groups or OCA as a whole.
5. Each group has but one primary purpose—to carry its message to those who still suffer from Obsessive Compulsive Disorder.
6. An OCA group ought never endorse, finance, or lend the OCA name to any related facility or outside enterprise, lest problems of money, property and prestige divert us from our primary purpose.
7. Every OCA group ought to be fully self-supporting, declining outside contributions.
8. Obsessive Compulsive Anonymous should remain forever nonprofessional, but our service centers may employ special workers.
9. OCA, as such, ought never be organized; but we may create service boards or committees directly responsible to those they serve.
10. Obsessive Compulsive Anonymous has no opinion on outside issues; hence the OCA name ought never be drawn into public controversy.
11. Our public relations policy is based on attraction rather than promotion; we need always maintain personal anonymity at the level of press, radio, and films.
12. Anonymity is the spiritual foundation of all our traditions, ever reminding us to place principles before personalities.

Source: Adapted from Alcoholics Anonymous World Services, Inc., and Obsessive Compulsive Anonymous.