Obsessive Compulsive Disorders

October 2009

Type of Anxiety Disorder

Anxiety disorders

- 2%- 5% of total population
- 6% - 27% of psychiatric population

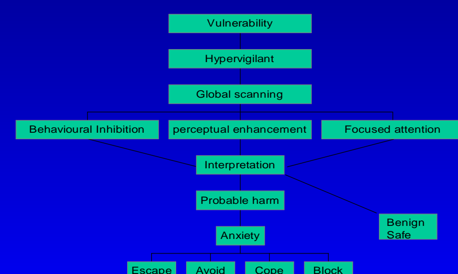
Features of Anxiety

- Tense apprehensiveness
- Anticipation of danger or discomfort
- Elevated arousal
- Negative affect
- Uneasiness
- Future - oriented
- Accompanied by bodily sensations

Types of Anxiety Disorders

- Panic disorder
- Agoraphobia without panic
- Social phobia
- Specific phobia
- Generalised anxiety disorder
- Post traumatic stress disorder
- Obsessive compulsive disorder

Model of Anxiety



Obsessions

Recurrent and persistent thoughts images or impulses, that are experienced some time during the disturbance, as intrusive and inappropriate, and cause marked anxiety or distress.

Not excessive worries about real life problems

Attempt to ignore, suppress or neutralise

Recognise as product of own mind

Examples of Obsessions

- Woman with recurrent intrusive thought that husband would die in car crash, with accompanying vivid imagery.
- Man with recurrent intrusive doubt that he may have knocked down someone crossing road
- Woman with current intrusive impulse to strangle children and animals, followed by the doubt that she may actually have done so
- Man with recurrent intrusive impulse to shout obscenities in public or on solemn occasions

Compulsions

- Repetitive behaviours or mental acts
  - » Person feels driven to perform
  - » In response to obsession or rules which must be applied rigidly
- Aimed at preventing or reducing distress
  - » Or preventing dreaded event or situation
  - » But not connected in realistic way with what they are designed to neutralise or prevent or are clearly excessive

Examples of Compulsions

- Woman felt contaminated every time she touched door handles, money etc and washed her hands thoroughly and repeatedly in an elaborate ritual
- Man had to check he had locked doors, windows, cupboards etc every time he left his room/house seven times
- Man opened letters he had written and sealed to check he had written the correct things several times before posting
- Man touched anything with left hand that he had touched with right hand.
- Woman touching four corners of room, starting from left , every time she entered a room.

Covert and Overt Compulsions

Compulsions can be covert

E.g.

Woman distressed by intrusive, repetitive appearance in consciousness of obscene words, appearing as visual images. She compulsively carried out a covert ritual of silently saying these words changed into acceptable one (e.g. well for hell) four times.

DSM-IV Criteria

- Obsessions, compulsions or both
- Recognised that excessive or unreasonable
- Cause distress, time consuming and interfere with normal routine, occupational or social functioning
- Content not restricted to aspects of another Axis 1 disorder
- Not due to effect of a substance or general medical condition

Relation

- Welner et al 1976
  - » 69% obsessions and compulsions
  - » 25% obsessions only
  - » 6% compulsions only
- Emmelkamp 1987
  - » 80% obsessions and compulsions
- Karno et al 1988
  - » Obsessions 55%
  - » Compulsions 53%
  - » Both 8%

Obsessive Compulsive Sequence

Trigger → Obsession → Discomfort → Compulsive urge → Compulsion → Discomfort reduction

Common Features

- Avoidance
- Fears of disaster
- Fear of causing harm
- Resistance
- Reassurance seeking
- Disruption
- Rumination

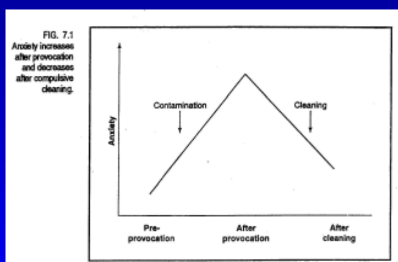


FIG. 7.1 Anxiety increases after provocation and decreases after compulsive cleaning.

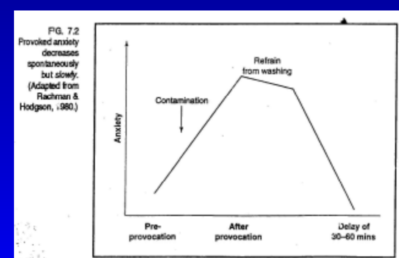


FIG. 7.2 Provoked anxiety decreases spontaneously but slowly. (Adapted from Rachman & Hodgson, 1980.)

Exclusions

- Addictive behaviours (drinking, gambling)
- Habit disorders (nail biting, hair pulling)

Obsessional Personality

- Characterised by orderliness, meticulousness, parsimony, neatness, perfectionism
- Many obsessive - compulsive disorder patients do not have a pre-morbid obsessional personality
- Most obsessional personalities do not develop the disorder

Prevalence

Quite rare
  0.3 - 3.1% general population (Fontanelle et al 2006)
  0.8% in adults (Heyman et al 2006)
Overall M = F
  » Washers/cleaners F > M
  » Primary obsessional slowness M > F
High proportion unmarried
Onset usually adolescence or early adulthood
Fluctuating course which gradually worsens

Epidemiology

Fontanelle LF & Hasler G 2008 Review

- Age
  - » older adolescents particularly prone
  - » reduces with age
- Gender - Adults F>M
- Employment - High level
- Higher socio-economic status
  - » but ? bias because seeking treatment
- Family background
  - » genetically mediated
- Environmental
  - » Conflicting
  - » life events

Co-morbidity

Hayman et al 2006 (BMJ 333: 26 Aug)

	%
• Depression	50-60
• Specific phobia	22
• Social phobia	18
• Eating disorder	17
• Alcohol dependence	14
• Panic disorder	12
• Tourette's syndrome	7
• Schizophrenia	14

Clinical Presentation

Contamination
  washing/cleaning problems
Checking
Overt rituals
Obsessions without overt compulsive behaviours
Primary obsessional slowness

Assessment

Aim to determine:

- nature of difficulty
- extent and severity
- degree of disability
- related factors

Assessment Methods

- Clinical interview
- Key informant
- Daily records/diaries
- Questionnaire
- Psychophysiological measures
- Behavioural tests
- Naturalistic observation
- Self - ratings

Clinical Interview

- Talk too much
- Too detailed
- Explore
  - » Sequence
  - » Discomfort/anxiety
  - » Avoidance
  - » Mood
  - » Hierarchy of situations

Key Informants

- Parent or spouse
- Observations
- Time
- Role of others in maintaining problems

Daily Records/ Diaries

Table 3.2 An example of a daily record sheet

Date   Target[a]

Time	Frequency[b]	Highest discomfort[c]	Highest compulsive urge[d]	Details and comments[e]
Before 7 a.m.				
7 – 10 a.m.				
10 a.m. – 1 p.m.				
1 – 4 p.m.				
4 – 7 p.m.				
7 – 10 p.m.				
After 10 p.m.				

a The particular obsession or compulsion monitored.
b How many times it happened in each time period.
c,d Rated on a 0–100 scale. Give the highest felt during the time period.
e Details of what happened: when, where, what was the trigger, how long taken, number of repetitions, etc. of the *worst* episode.

Questionnaires

- Maudsley Obsessional Compulsive Inventory (Hodgson & Rachman 1977)
- Leyton Obsessional Inventory (Cooper 1970)
- Padua Inventory (Sanavio 1988)
- Yale Brown Obsessive Scale (Goodman et al 1989)
- Clark-Beck Obsessive Compulsive Inventory (Clark & Beck 2002)

Maudsley Obsessive-Compulsive Inventory

- Hodgson & Rachman 1977
  - » 30 item True/False report
  - » Total & Subscales
    - – Washing
    - – Checking
    - – Slowness
    - – Doubting
  - » Assesses ritualistic behaviours rather than obsessional ruminations
  - » Widely used
  - » Sensitive to change

APPENDIX: THE MAUDSLEY OBSESSIONAL-COMPULSIVE INVENTORY*

(a) The inventory

Instructions: Please answer each question by putting a circle around the 'True' or 'False' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

1	I avoid using public telephones because of possible contamination	TRUE FALSE
2	I frequently get nasty thoughts and have difficulty in getting rid of them	TRUE FALSE
3	I am more concerned than most people about honesty	TRUE FALSE
4	I am often late because I can't seem to get through everything on time	TRUE FALSE
5	I don't worry unduly about contamination if I touch an animal	TRUE FALSE
6	I frequently have to check things (e.g. gas or water taps, doors, etc.) several times	TRUE FALSE
7	I have a very strict conscience	TRUE FALSE
8	I find that almost every day I am upset by unpleasant thoughts that come into my mind against my will	TRUE FALSE
9	I do not unduly worry if I accidentally bump into somebody	TRUE FALSE
10	I usually have serious doubts about the simple everyday things I do	TRUE FALSE
11	Neither of my parents was very strict during my childhood	TRUE FALSE
12	I tend to get behind in my work because I repeat things over and over again	TRUE FALSE

Y-BOCS

- 10 item clinician rated
- Measure of severity
- Independent of type of symptoms
- 0-4 scale
- Reliability good (Goodman et al 1989)
- Sensitive to change with treatment

(Fisher & Wells 2005 Behav Res Therapy 43; 1543-1558)

Y-BOCS Severity Dimension

- Time occupied by obsessive thoughts (OT)
- Interference due to OT
- Distress associated with OT
- Resistance against obsessions
- Degree of control over OT
- Time spent performing compulsive behaviours (CB)
- Interference due to CB
- Distress associated with CB
- Resistance against compulsions
- Degree of control over compulsions

Cognitive Measures

- Intrusive Thoughts Questionnaire
  - » Edwards & Dickerson 1987
- Cognitive Intrusions Questionnaire
  - » Freestone et al 1991
- Obsessive Thoughts Checklist
  - » Bouvard et al 1990
- Guilt Inventory
  - » Kugler et al 1988
- Obsessive Belief Questionnaire 44
  - » Sica et al 2004

Psychophysiological Assessment

- Heart rate
- Pulse rate
- Skin conductance

But

- Impractical clinically

Behavioural tests

- Observation of targeted problems
- Systematic manipulation of triggers and situations
- Time taken for daily activities

But

- Many be lessened in new environment

Naturalistic Observation

- Difficult in practice
- Feasible if problems occur in specific situations

Self Ratings

- Rating of subjective reactions during behavioural tests

But

- ? reliability and validity

Models

- Biological
- Psychodynamic
- Learning
- Cognitive

→

- Treatment

Biological Factors

Genetics

- Lenane et al 1990
  - » Interviewed 146 relatives of 45 children and adolescents with OCD
  - » 30% one first degree relative with OCD
    - – 25% fathers
    - – 9% mothers
  - » Symptoms different – unlikely to be cultural
- Grabe et al 2006
  - » First degree relatives
  - » Non-treatment seeking OCD 10.3% controls 1.2%

Biological Factors

Brain Scan Investigations

- Fronto-striatal abnormality
- Baxter et al 1987
  - » PET scan
  - » OCD vs Normal controls vs Unipolar depressives
  - » Glucose metabolism rates elevated over whole cerebral hemisphere, caudate nuclei, orbital gyrus
- Swedo et al 1989
  - » OCD vs normal controls
  - » R lateral pre-frontal and left anterior cingulate
  - » R orbital glucose metabolism correlated with symptom severity

Biological Factors

Brain Scan Investigations

- Resolution of fronto-striatal abnormality after treatment
- Baxter et al 1992
  - » Fluoxetine
  - » Behaviour therapy
  - » After treatment bloodflow in head of R caudate nucleus sig decreased compared to pre-treatment in patients who responded to treatment
  - » Non-responders showed no change
  - » % change in symptom rating correlated with % R caudate change in drug treatment and trend ($p=0.09$) in BT

Biological Factors

Abnormality in Serotonergic system

- Blood serotonin
  - » Inconsistent
- CSF serotonin metabolite
  - » Higher concentration in OCD
- Challenge strategy
  - » Serotonin agonists → untreated OCD patients
  - » worse
    - – Anxious
    - – Depressed
    - – Altered self reality
  - » Exacerbation of OCD symptoms

but

- Similar therapeutic effects by psychological treatment methods
- Inconsistent evidence serotonin levels differ from other psychological disorders
- Weak relation amount clomipramine absorbed and degree of therapeutic change

Pharmacological

- anti-depressants have varying success.
- Serotonin uptake inhibitors may → benefit

but

- symptoms return when drug stopped
- unpleasant side-effects

For fuller discussion:

- *Cavedini et al Neuropsychology Review 2006; 16: 3-15*

Psychodynamic Approach

Repressed memories, desires and conflicts → neurotic anxiety → symptom

OC = symptoms of underlying psychic conflicts

Anal-sadistic stage of development - toilet training = major feature

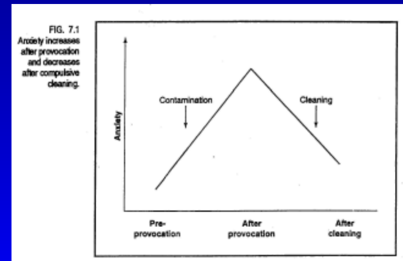
Failure → vulnerable to OC problems later

Psychotherapy

- explores unconscious
  - » to unravel hidden conflicts and anxieties
- results
  - » not impressive (Jenike 1990)
  - » not supported by NICE (NICE 2005, Heyman et al 2006)
- patients can't stop ritual behaviour

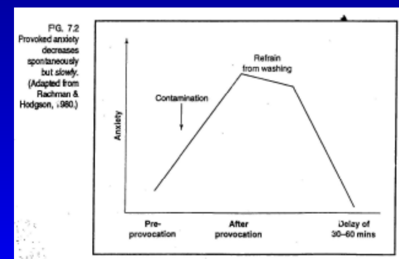
Learning Approach

- Obsessions → Anxiety → Compulsive acts → anxiety reduction.
- strengthened by repetition
- but critical emotion
  - » discomfort > anxiety



Behaviour Therapy

- Exposure
  - » Systematic desensitisation to anxiety provoking situations
  - » Cooper et al 1965 3/10 patients improved
  - » Turner & Mitchelson 1984 ? Exposure too short
- Response prevention
  - » Refrain from engaging in compulsive behaviour



Behaviour Therapy

Overt Compulsions e.g. washers and cleaners

Treatment = exposure + modelling + response prevention

- Exposure
  - » Put in situations which provoke compulsive urge
- Modelling
  - » Therapist demonstrates behaviour
- Response prevention
  - » Refrain from engaging in compulsive behaviour

Rationale

Learned behaviour pattern

Meyer 1966

- Exposure → strong urge to perform ritual behaviour
- Engages in behaviour → discomfort reduces
- Prevention → urge and discomfort dissipate over time (but more slowly)
- Repeated sessions → cumulative effect

Hierarchy of stimuli

Using a public toilet	100
Going in public toilet to wash hands	90
Going in public toilet without touching anything	75
Touching door of public toilet	50
Touching door of public toilet with elbow	35
Touching door of public toilet with foot	10

Heirarchy

Table 4.1 A hierarchy of stimuli triggering the compulsion to wash in one patient

No.	*Items*	*Rated discomfort* 0–100
1	Touching a dog with both hands	100
2	Touching a bowl from which a dog had eaten	90
3	Touching a piece of cloth which had come in contact with a dog	80
4	Walking barefoot on the ground where dogs had been previously	75
5	Wearing a shirt which he had been wearing at the time of passing near a dog	65
6	Holding hand of someone who had been feeding a dog	50
7	Touching the clothes of an unknown person in hospital	50
8	Walking past dustbins in the hospital premises	40
9	Walking on the road during rush hours	30

Source: de Silva, 1978

Support:

- Meyer & Levy 1973
  10/15 OCD patients improved
- Checkers and cleaners have heightened anxiety in situations which normally → ritualistic behaviour.
- Compulsive behaviour → reduction in discomfort (Rachman & Hodgson 1980)
- Repeated exposure to cues → lower levels of discomfort and compulsive urge + progressively quicker dissipation with response prevention (Likierman & Rachman 1980)

But

- why do only certain types of stimuli → OC behaviours?
- why no traumatic starting point?
- model - no explanation of obsessions

Checkers

- Exposure
- Response prevention
- Imaginal exposure to disasters which checking rituals prevent

Covert Phenomena

- Thought stopping and thought control
- Habituation/satiation
- Exposure to triggers

Obsessional Slowness

- Pacing
- Prompting
- Shaping
- Modelling
- Feedback
- Target setting

Improvement slow with plateaus

Implementation

- Explain rationale
- Work at highest level in hierarchy patient can tolerate
- Prolonged response prevention necessary
- Exaggerated exposure

Evaluation of BT

Foa et al 1983

- 50 OCD patients
  - 58% much improved
  - 38% improved
  - 4% failed

Foa et al 1985

- 18 studies
  - 51% much improved
  - 39% moderately improved
  - 10% failed to benefit

Practical Considerations

- Avoidance reduction
- Intensity
  - Foa & Tillmans 1980 daily for 2 weeks
- Therapist attitude
- Family involvement
- Consistency
- Help for family

Cognitive Model

Salkovskis 1989

- Concentrate on automatic thoughts consequent on intrusions and beliefs which give rise to these
- Obsessional thoughts = universal phenomenon
- Subsequent appraisal determines obsessional illness
- Presence of dysfunctional assumptions determines whether intrusive thinking → discomfort

Salkovskis 2007

Cognitive Therapy

- Identification of inaccurate thoughts
- Changing the way intrusions are interpreted
- Understanding counterproductive strategies
- Abnormal risk assessment
- Exaggerated responsibility

Risk Assessment

Feared catastrophe: *That I will contaminate my therapist and this will lead to the death of a hospital patient.*

Probability of occurrence: 1/10

	Sequence of events	Chance	Cumulative Chance
1.	I will tread on glass.	1/10	1/10
2.	The glass will get stuck to my shoe.	1/10	1/100
3.	A fragment will drop on the carpet.	1/10	1/1000
4.	The fragment will be transferred to my therapist's clothing.	1/100	1/10 000
5.	My therapist will go to a hospital and the glass will be transferred to a medical ward.	1/10	1/1 000 000
6.	Eventually the glass will be transferred to a life support machine.	1/100	1/100 000 000
7.	The machine will break.	1/10	1/1000 000 000
8.	A patient will die.	1/10	1/10 000 000 000

Exaggerated Responsibility

- Non-clinical groups
  - » Responsible for what do not what fail to do
- OCD
  - » Do not have omission bias
- Responsibility
  - » Checking at home > work
  - » Seeking reassurance = shared responsibility

- But
  - » Lack of underlying cognitive appraisals and underlying beliefs
  - » Repetitive behaviours
  - » Counting and number obsessions

Cognitive Therapy

Van Oppen & Arntz 1994

Behav. Res. Ther. 32, 79-81.

- Modification of abnormal risk assessment
- Probability of danger overestimated
- Consequences of danger overestimated
- Compare probability estimates with analysis of event sequences

Van Oppen et al 1995

- *Behav. Res. Ther.* 33, 379-390.
- Primary diagnosis of OCD
- Not only obsessions
- Age 18-65
- OCD for at least one year
- Absence of organic mental disorder, mental retardation or psychotic disorder
- No cognitive or behavioural treatment in preceding 6 months
- No use of anti-depressants
- 16 sessions treatment of 45 mins

- Cognitive therapy n=28
- Behaviour therapy n=29

- Assessed pre-treatment, after 6 sessions and after 16 sessions
- On PI-R, Y-BOCS, ADS, SCL90R, BDI, IBI

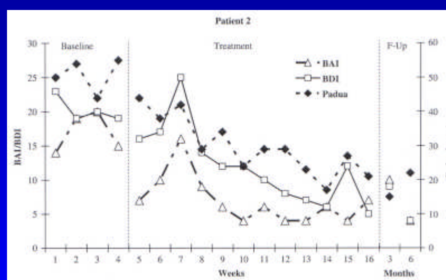
- Both conditions improved significantly on almost all variables
- Effect sizes slightly higher in cognitive therapy condition

Metacognitive Therapy

- Fisher & Wells 2008
  - » J Behav Therapy & Exp Psychiatry 39; 117-132
- Many patients remain symptomatic
- Metacognitive beliefs fundamental to maintenance of disorder
  - » Meaning and consequences intrusive thoughts and feelings
  - » Beliefs about necessity of performing rituals and negative consequences of failing to do so.
- Emphasis in metacognitive therapy is on beliefs, but not on inflated responsibility, intolerance of uncertainty or perfectionism.
- Little use of ERP
- Evaluation using single case methodology

SCED outcomes

Fisher & Wells 2008



Fisher & Wells 2008 Outcomes

- Visual inspection
  - » All 4 treatment scores substantially lower than pre-treatment
- Clinically significant change
  - » All 4 Y-BOBS recovered post-treatment
  - » 2/3 maintained at 6 months 1 missing
- Asymptomatic status
  - » 7 or less on Y-BOCS
  - » 2/4 post-treatment but 0/3 at 6 months
- Percentage improvement
  - » 63%-75% on Y-BOCS
  - » 50%-86% on Padua
- Preliminary SCED evidence of effectiveness

RCT Evidence of Effectiveness

- Drug vs Behavioural treatment
- Kobak et al 1998 Meta-analysis
- Search 1973 → 1997
  - » 77 studies
  - » 106 treatment comparisons
  - » 4641 patients
- ERP > SRI's
- Controlling for methodological aspects
- ERP= SRI
- Clomipramine > other SRI

Effectiveness

- Drug + Behavioural treatment
- Hohagen et al 1998
- RCT
  - » 30 fluovoxamine +BT
  - » 30 placebo + BT
- Both groups sig improvement
- NS difference between groups for compulsions
- BT+ F > BT+ P for obsessions

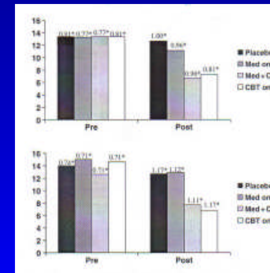
O'Connor et al 2006

- Acta Psychiatr Scand 113; 408-419
- Past studies compared medication with ERP but recent CBT includes more cognitive components
- Compared
  - » Medication
  - » Placebo
  - » CBT
  - » CBT + medication
- All treatments (but not placebo) produced improvement
- CBT > medication for obsession
- CBT + medication greatest effect

O'Connor et al 2006 Y-BOCS

obsessions

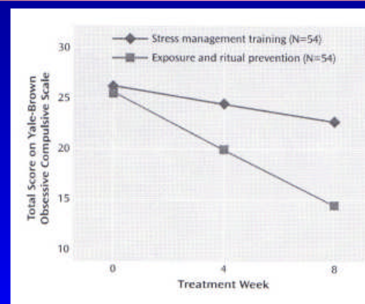
compulsions



SSRI + CBT

- Simpson et al 2008 Am J Psychiatry 165; 621-630
- Adult outpatients
- Y-BOCS $\geq$ 16
- SRI for 12 weeks before entry
- 17 sessions CBT (ERP or stress managt)
- ERP > SM
- But 17 sessions not enough

Simpson et al 2008



Effectiveness

- Behavioural treatment vs CBT
- Cottraux et al 2001
- 65 outpatients with OCD
- RCT
  - » CT 20 sessions
  - » BT 20 hours
- No medication
- CT=BT
- Depression (BDI) CT > BT

Effectiveness

- Behavioural treatment vs CBT
- McLean et al 2001
- Group treatment
  - » 76 participants
  - » 38 waiting list
- CBT & BT > WL
- ERP > CBT at follow up

CBT

Anderson & Rees 2007

Behaviour Research & Therapy 45; 123–137

- Randomly assigned
  - 10 weeks of individual CBT (n=25)
  - 10 weeks of group CBT (n=21)
  - 10 week waiting-list (n=17)
- Participants with significant co-morbidity were included to enhance generalisability
- No sig differences between the group and individual treatments on outcome measures.
- Large effect sizes for both conditions.

NICE Guidelines

- See Heyman I et al 2006 BMJ
- Stepped Care Model
- Mild → Brief CBT
- Moderate → More intensive CBT or SSRI
- Severe → CBT + SSRI

Reading List

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