

Human Behavior Course 2004

Anxiety Disorders

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HUMAN BEHAVIOR COURSE 2004

ANXIETY DISORDERS TWO - SLIDES

LEARNING OBJECTIVES AND STUDY QUESTIONS FOR DISCUSSION.

1. Know the meaning of the terms and concepts listed in slide one and two below.
2. Describe what is known about the neurobiological mechanisms of anxiety and the various anxiety disorders.
3. What medications may be used to treat generalized anxiety disorder?
4. What medications may be used to treat panic disorder?
5. What medications may be used to treat agoraphobia?
6. What medications may be used to treat social phobia?
7. What medications may be used to treat specific phobia?
8. What medications may be used to treat obsessive-compulsive disorder?
9. What types of anxiety responds to beta-adrenergic blockers?
10. Know the pharmacologic properties of the major benzodiazepine agents (e.g., adverse effects, mechanism of action, half-life, time to onset).
11. Contrast buspirone to the benzodiazepine agents.

Slide 1

Terms & Concepts 3

- ★ Stereotactic surgery
- ★ GABA
- ★ Serotonin
- ★ Norepinephrine
- ★ Dopamine
- ★ Locus ceruleus
- ★ Yohimbine
- ★ Clonidine
- ★ Lactate infusion
- ★ Flumazenil
- ★ Fenfluramine
- ★ Carbon dioxide inhalation
- ★ Bicarbonate infusion
- ★ Fear circuit



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Drugs & Drug Classes To Know

Relevant Drugs

- ★ Lorazepam (Ativan)
- ★ Midazolam (Versed)
- ★ Alprazolam (Xanax)
- ★ Flurazepam
- ★ Temazepam
- ★ Quazepam
- ★ Triazolam
- ★ Zolpidem (Ambien)
- ★ Zaleplon (Sonata)
- ★ Diazepam (Valium)
- ★ Venlafaxine
- ★ Mirtazepine

Relevant Drugs (Continued)

- ★ Nefazodone
- ★ Clomipramine
- ★ Buspirone

Relevant Drug Classes

- ★ Selective Serotonin Reuptake Inhibitors
- ★ Benzodiazepines
- ★ Tricyclic Agents
- ★ Monoamine Oxidase Inhibitors



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Theoretical Explanations -Biological-

- ★ Autonomic nervous system (ANS) dysregulation
- ★ Panic attack inducers
 - Sodium lactate infusion
 - Carbon dioxide inhalation
 - Bicarbonate infusion
 - Centrally mediated hypoxia response?



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Theoretical Explanations -Biological-

- ★ Monoaminergic hypothesis
 - Locus ceruleus
 - Anxiety & depression are linked phenomena
 - Antidepressants also treat anxiety
- ★ Gamma-aminobutyric acid (GABA)
GABA receptor is site of benzodiazepine action



Types of Anxiety Symptoms

- ★ Free-floating - steady tension and worry
- ★ Panic – sudden, intense anxiety
- ★ Phobic – fear of an object or situation
- ★ Obsessions – recurrent, intrusive, and unwanted anxiety producing thoughts



Specific Disorders

- ★ Anxiety disorder due to a general medical condition
- ★ Substance induced anxiety disorders
- ★ Primary anxiety disorders
- ★ Anxiety as a symptom of other psychiatric disorders



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Anxiety Disorder Due to a General Medical Condition*

- ★ Thyroid Disease (hypo- or hyper-)
- ★ Hypoglycemia
- ★ Vitamin B-12 Deficiency
- ★ Cardiac Dysrhythmias
- ★ Endocrine Tumors (pheochromocytoma)
- ★ Primary or metastatic brain tumors



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* See Table 9-1 in Cohen for detailed list (page 250)

Substance-Induced Anxiety Disorders

- ★ Virtually all substances of abuse may cause anxiety:
 - Intoxication
 - Withdrawal
- ★ Many prescription medications cause anxiety



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Substance-Induced Anxiety Disorders

- ★ Patients with primary anxiety disorders sometimes 'self-medicate':
 - Alcohol
 - Other drugs
- ★ Substances can cause:
 - Generalized anxiety
 - Panic attacks
 - Obsessive-compulsive symptoms



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Substance-Induced Anxiety Disorders

- ★ Vitamins: niacin, ginseng
- ★ OTCs: alcohol, diet pills, ephedra, cough/cold, laxatives, caffeine
- ★ Prescriptions: thyroid meds, theophylline, hypoglycemics, beta-agonists, antidepressants
- ★ Illicit: cocaine, amphetamines, PCP, LSD, MDMA, psilocybin mushrooms, ketamine, etc



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Table 22-2. Differential diagnosis of anxiety disorders.

Medical Illnesses	Substance Use/Abuse	Psychiatric Disorders
Cardiac Angina Arrhythmias Congestive failure Infarction Mitral valve prolapse Paroxysmal atrial tachycardia	Prescription or over-the-counter drug use Antidepressants Fenfluramine/phentermine Psychostimulants (eg, methylphenidate, amphetamine) Steroids Sympathomimetics	Adjustment disorders Affective disorder Dissociative disorders Personality disorders Somatoform disorders Schizophrenia (and other psychotic disorders)
Endocrinologic Hyperthyroidism Cushing's disease Hyperparathyroidism Hypoglycemia Premenstrual syndrome	Substance abuse Alcohol/sedative withdrawal Caffeine Hallucinogen Stimulant abuse (eg, cocaine)	
Neoplastic Carcinoid Insulinoma Pheochromocytoma		
Neurologic Huntington's disease Meniere's disease Migraine Multiple sclerosis Seizure disorder Transient ischemic attack Vertigo Wilson's disease		
Pulmonary Asthma Embolism Obstruction Obstructive pulmonary disease		
Other Porphyrria Uremia		

Generalized Anxiety Disorder

- ★ Excessive worry or anxiety about events or life activities (school, work, relationships)
- ★ Occurs most days over 6 months or longer
- ★ Includes at least three of the following:
 - Feeling restlessness, “keyed up,” or on edge
 - Easy fatigue
 - Poor concentration
 - Irritability
 - Muscle tension or weakness
 - Sleep disturbance



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Generalized Anxiety Disorder 3 Common Pharmacotherapies

Buspirone
Imipramine
Venlafaxine
Benzodiazepines



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Panic Disorder

- ★ Panic attacks: one or more
 - Symptoms – palpitations, SOB, sweating, dizziness, choking, trembling, chest discomfort, feeling of impending doom
 - Uncued – no identifiable environmental precipitant
- ★ At least a month of worry
- ★ NOT due to disease, substance, or medication
- ★ May occur with or without agoraphobia



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Panic Disorder 4 Induction of Attack

- ★ Lactate infusion
- ★ Bicarbonate infusion
- ★ CO₂ inhalation
- ★ Caffeine
- ★ Nicotine



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Panic Disorder 5 Common Pharmacotherapies

SSRIs
Imipramine
Benzodiazepines (acutely)



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Obsessive-Compulsive Disorder

- ★ Obsessions: recurrent intrusive thoughts
 - Contamination fears & excessive doubt are most common
 - Often violent or sexual themes
- ★ Compulsions: repetitive behaviors or rituals
 - Checking & washing are most common
 - Counting
 - Repeating
 - Arranging
 - Hoarding



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Obsessive-Compulsive Disorder 3 Common Pharmacotherapies

SSRIs

Clomipramine

Most respond, but only partially



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Phobic Disorders

- ★ An irrational fear of some stimulus that causes
 - Disabling avoidance, or
 - Anxiety or panic when the feared stimulus cannot be avoided
- ★ Insight is typically preserved



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Phobic Disorders 2

- ★ Social phobia – fear of embarrassing one-self in a social or performance situation
- ★ Specific phobias – fear of...
 - Animals or insects
 - Natural environment (e.g., heights)
 - Situational (e.g., flying)
 - Blood or Injection
- ★ Agoraphobia – fear of places or situations from which escape might prove difficult or embarrassing



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Phobic Disorders 4 Common Pharmacotherapies

- ★ Specific - none
- ★ Social –
 - Beta blockers (must anticipate)
 - SSRIs – paroxetine is FDA-approved



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Differential Diagnosis

- ★ General medical conditions?
- ★ Substance use or misuse?
- ★ Which type of anxiety disorder?
 - Anxiety in "attacks"?
 - Traumatic event?
 - Specific stimulus?
 - Obsessions or compulsions?
 - Recent stressor?



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Treatment

- ★ GMC: optimize treatment of the underlying illness
- ★ Substance-induced:
 - Discontinue or taper the substance
 - May require a taper (CNS depressants) or more intensive rehab
- ★ Primary anxiety disorders:
 - Psychopharmacologic
 - Psychotherapeutic
 - Patient education



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Treatment 2

- ★ Anxiety as a symptoms of depression
Underlying illness (antidepressants work for both)
- ★ Anxiety as a symptom of schizophrenia
 - Behavioral protocols for compulsions
 - Benzodiazepines often used along with the antipsychotic medication
 - Education



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Conclusions

- ★ Anxiety is universal
- ★ Anxiety disorders are common
- ★ First, think D-S-M (disease, substances, meds)
- ★ Treatment typically includes combined behavioral or cognitive behavioral therapies, psychoactive medication, and patient education



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