



Nutritional / Disease Theories of Substance Abuse

Psychology 470

Introduction to Chemical Additions

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Background

- Biological models are part of the Nature – Nurture debate
- Early debates focused on alcoholism
- Which causes alcoholism
 - Nature – Biology, Genetics, etc
 - Nurture – Environment
- Many proponents on both sides

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Biological / Disease Models

- All contend there is some biological basis for addiction or chemical dependency
 - Most usually focused on alcohol
- Focus is in different areas.
 - Nutrition
 - Genetics
 - Others
- Also, is a very contentious debate in the addictions field with supporters taking a us vs. them mentality
 - You are with us or against us. No gray area exists within the debate.

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Many Different Models

Marker / Trait Models

- Nutritional Models
- Genetic Models
 - Early Models
 - Two Gene Theories
 - Recessive Genetic Theories
 - Diathesis – Stress Models
 - Disease models in general

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Marker / Trait Theories

- Oldest scientific theories
- Contends there is some genetic marker that predicts whether a person will become alcoholic.
 - Hair color, eye color, lines in the hand, etc.
- Later expanded to psychological markers (traits)
 - Depression, impulsivity, hyperactivity, etc.
- Is hypothesized to be correlated with some type of brain damage that results in alcoholism.
- Problem
 - No marker has been shown to predict alcoholism
 - Research is correlational. Cannot establish cause-effect relationships.
 - Poor reliability and validity.

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Nutritional Models

- Early models
 - Contended alcoholism was caused by the lack of some nutrient.
 - The person drinks because alcohol is providing some nutrient
- Problem
 - What was lacking?
 - No reliability or validity
 - All correlational evidence

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Later Nutritional Theories

- Contends alcoholism is caused by the lack or too much of some nutritional substance.
- Causes some brain biochemical change
- Problem – Which substance
 - Some people become alcoholics others do not.

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Example

- Alcoholism caused nutritional deficits
 - Korsakoff's and Wernicke's syndrome
 - Has a strong correlation with alcoholism
- Problem. Does not occur due to alcoholism
 - Occurs due to the lack of B vitamins
 - However, alcohol does decrease absorption of B vitamins
 - Other drugs also decrease vitamin absorption.

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Nutrition Models and Drug Use / Abuse

- Poor relationship for other compounds
 - Methamphetamines
 - Opiates
 - Cocaine
- What nutrient is lacking?
- Ultimately,
 - Implication that poor nutrition causes drug abuse has problems with reliability and validity
 - However, drug abuse does cause nutritional problems

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Disease Model (of Alcoholism)

- Many advocates
- Many opponents
- Often is called a turf battle between the Medical and Mental Health Professions
- It the current predominant model in the U.S.
- Is not the predominant model in other parts of the world.

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Early Theories

- Heroditus (fifth century BC)
- references drunkenness as a body and soul sickness (Crothers, 1893)
- Aristotle (384-322 BC)
 - Compared licentiousness to drunkenness
 - Noted that the former was a functional disorder while the latter resulted from an organic disorder.
 - Viewed licentiousness as permanent but drunkenness curable. (The Cyclopaedia of Temperance and Prohibition, p. 221)
- The Combined Addiction Disease Chronologies of William White, MA, Ernest Kurtz, PhD, and Caroline Acker, PhD 5th BC - 1863
- <http://www.bhrm.org/papers/5thBC-1865.pdf>

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Family Observations

- Aristotle
 - Drunken women bring forth children like unto themselves
- Hippocrates
- Observed some diseases run in families.
- Theorists contended that alcoholism was the same.
 - Problem, could not account for the variety of types of alcoholism
- Thus, moral models still predominated

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Early Theorists

- Distilled spirits had come to the America's
- Benezet
- Challenged the view that alcohol was good, instead it was bewitching poison

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Benjamin Rush, MD 1784

- Thought alcohol was a stimulant
- First U.S. physician to identify alcoholism as a disease
- Introduced medical language into the discussion of intemperance
- Contended distilled spirits were strong CNS stimulants and excessive use caused an imbalance in the NS
- Contended loss of control was the major symptom
- Developed a treatment model based on the disease concept

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Rev. Lyman Beecher (1825)

- Delivered six sermons on the Nature, Occasions, Signs, Evils, and Remedy of Intemperance.
- Contended intemperance was an evil habit
- Concluded his sermons with the contention that intemperance was a disease as well as a crime.

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William Sweetser M.D. (1829)

- Contended that intemperance caused an alteration in all major body structures
- Also caused alterations in body functioning
- Was caused by heredity or accidental circumstance
- But was a disease produced by voluntary acts

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Sam Woodward M.D. (1830)

- Contended intemperance was a physical disease which preyed on the person's health and spirits
- Heredity caused chronic drunkenness
- It was a physical evil, a disease of the stomach and nervous system

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Treatment

- Abstinence is the only effective cure
 - Also used cold baths, early aversion therapy
 - Vegetarianism, cold baths, and others.
 - Called for the establishment of "sober houses".
- See Meyer, R Lancet, 347: 1996

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Thomas Trotter (1804)

- English Physician
- Wrote a paper stating habitual drunkenness was a disease
- Was produced by a remote cause
- Caused health problems
- Created intense controversy with proponents of the moral model
- Also created controversy within the medical community

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Other Disease Model Theorists

- Carpenter (1850)
- Also contended alcoholism was a disease
- Related alcoholism to lunatics (diagnostic type of insanity)
- Described many types of symptoms
 - Brain deterioration
 - Delirium Tremens
 - Caused by habitual intemperance
 - Melancholia (Depression)
- Had a predisposing cause
 - Modified nutritional operations
 - Result- changed chemical, physical and other body systems
- Carpenter, On the Use and Abuse of Alcohol Liquors

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Oinomania (Dipsomania) Insanity

- Was different from drunkenness
- Irresistible propensity to swallow stimulants in enormous doses whenever they can be procured
- Generally describing loss of control
- Person drinks anything

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Contended there were three types of alcoholics

- Acute
- Periodic
- Chronic

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Acute

- Was the rarest
- Occurs from hemorrhage in puerperal state
- Recovery from fevers
- Excessive venereal indulgence
- Some forms of dyspepsia
- Cured after restoring the health of the patient
 - Dyspepsia usually was not cured

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Periodic (Proxysimal)

- Is more frequent than acute
- Occurs from head injuries, pregnant females.
- Catamenial periods
- On the approach to the critical stage
- In men whose brains are overworked
- Characterized by cravings
 - Cure for cravings – drinks alcohol until intoxicated
 - Stops for a week, then begins again
 - Can be cured by abstinence
 - If the person does not stop, becomes maniacal or imbecile, has physical problems, or moves to the next stage

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Chronic Stage

- Is the most common
- Caused by head injuries, hereditary predisposition, intemperance, or diseases of the heart.
- Is the most incurable
- Person has
 - Constant desire for stimulants (alcohol)
 - Cravings
 - Drinking to intoxication regardless of consequences
 - May commit homicide or suicide
 - Is a danger to himself and others
- Person is not responsible for the disease once they begin drinking

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Cure

- Attention to health
- Abstinence
- Must be treated in an asylum
 - Is necessary for the person, family, security of the public
 - Should be prevented from committing crimes
 - Must be controlled

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Prognosis

- If you have a strong mind you can resist the disease,
- If not, people voluntarily return to the asylum to remain until the "attack" (craving) has worn off.
- Carpenter of chronic cases, I have seen only one case completely cured (after 2 years of seclusion
- Is not cured, when liberated they manifest all symptoms of the disease
- So, keep confined in the asylum forever.

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Finally

- Notes that intemperance is the most potent type of insanity. Also causes other types of insanity, idiocy, or mental debility in the person's offspring.
- Thus, the disease is hereditary.
- Places the mental disease on their family
- Causes daughters to become nervous and hysterical. Sons to become weak, wayward, eccentric and deteriorate.

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Hospitals Develop

- Were based on disease models
- 1864 New York State Inebriate Asylum
- 1870 American Association for the Cure of Inebriety (AACI)
 - Contended
 - Intemperance is a disease
 - Is curable like other diseases
 - Cause is susceptibility to alcoholic impression
 - May be inherited or acquired
- Published a journal AACI Journal of Inebriety

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Crothers

- Inebriety had multiple causes
 - Heredity, illness, emotional excitement, adversity
- Had different patterns
 - Intermittent
 - Chronic

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Early Opponents of the Disease Model

- Was an apology for sin of drunkenness
- Was a victim of society
 - Society had seduced the person into the habit.
- Was a sin against God
- Could only be cured by religious conversion

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Time passes

- Moral model still strong but the disease model has proponents
- The concept of opiate addiction develops along with the disease concept of alcoholism
- 1880's addiction specialists were using terms such as drug vice and dreadful habits
- Morphinism begins to move into the medical literature
- However, the concept of disease models were poorly developed

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Concepts of Alcohol and Drug Problems

- End of 19th Century there were several different models
- Disease Model
- Source of the problem was in the person (vice and sin)
- Source of the problem was the product (alcohol, opiates, cocaine)
- Source of the problem was the aggressiveness of promotion by distilleries, breweries, physicians and pharmacists

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End of 19th Century

- Disease concept falls out of favor
- Demedicalization of addiction increases and issues related to prohibition begin to increase
- Harrison Narcotic Act (1914)
 - Brought narcotics and cocaine under federal control
 - Physicians are the gatekeepers
- Care of addicts moves from physicians to others
- The addict is a criminal – put them in jails
- Prohibition begins in 1920, ends 1933
 - Disease concept falls from popularity
- Most treatment facilities no longer exist by end of prohibition.

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Psychiatry

- Alcoholics are "treated" in prisons or public hospitals
- Psychiatrists used Freudian models
 - Alcohol and drug use is not the primary problem.
 - Need to find the hidden, unconscious forces that is causing the alcohol/drug abuse.

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Result

- Formed theoretical foundations to treat patients
 - Allowed recovered alcoholics to help others in clinical settings
 - Caused the creation of private hospitals for those who could afford treatment

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Consequence

- Mandatory sterilization
- Legal commitment
- Prefrontal Lobotomies
- ECT
- Drug therapies
- Worst abuses of the mental health system.

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1935

- AA begins (Bill Wilson, Dr. Bob Smith)
- Was not the first self help group for alcoholism, but became the largest.
- Has and still has a major influence in alcoholism treatment.
- Is the standard for support-structures
- Is credited with as the source of the new "Disease Concept of Alcoholism"

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Problem

- Early AA pioneers did not believe it was a disease entity
- Was an ailment or a malady
- Only used disease concepts so people could understand they could not drink alcohol
- Also, no discussions of disease concepts in text from AA
- Had a physical, mental, emotional, and spiritual dimension.
- Kurtz
 - Reviewed whether AA was the source of the disease concept
 - AA used the disease concept, but did not originate, rediscover, or push the concept
- Generally AA used the concept as a statement of experience.

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- Three Groups
- Research Council on the Problems of Alcoholism (1937)
- Yale Center of Alcohol Studies (1943)
- National Committee for Education of Alcoholism (1944)
 - Marty Mann
- Collectively developed the driving force for the concept.

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1943-44 Yale

- Center of Alcohol Studies
 - Jellinek, Keller, Jolliffe, Efron
 - Conducted scientific research on addictions
 - Published Quarterly Journal of Studies on Alcohol
 - Taught professionals about alcoholism
- Yale Plan Clinics
 - Pioneered modern model of outpatient counseling
 - Advocated alcoholism was a disease but used a psychoanalytic model as a understanding for the cause
 - Needed to find the underlying cause
 - Used different modalities including group therapy

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1944

- National Committee for Education on Alcoholism (Marty Mann)
- Supported 5 areas
 - Alcoholism is a disease
 - Alcoholic is therefore, a sick person
 - The alcoholic can be helped
 - The alcoholic is worth helping
 - Alcoholism is our public responsibility
- Pushed the concepts throughout her life

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Problem

- Despite all the discussion, comments, and arguments that alcoholism was a disease
- THERE WAS LITTLE OR NO EVIDENCE TO SUPPORT THE ARGUMENT
- Lots of fighting between NCEA and the Yale Plan

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Jellinek (1950, 1962) Studies

- Studied alcoholism
- Had a prolific impact
- Before Jellinek,
 - Moral model predominates
 - Besides morality issues, physicians of the time contended alcoholics had some “allergy” that caused them to drink differently than non-alcoholics.
 - But did not know what the allergy was

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Cont.

- AA had been developed
 - Contained a heavy spiritual component in the treatment model
 - Accepted that alcoholics were different than non-alcoholics

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Jellinek

- Surveyed 98 male AA alcoholics in late stages of alcoholism
- Wrote a classic book The Disease Concept of Alcoholism
- Contended alcoholism was a disease
 - BUT - had more than one type

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Five Subtypes of Alcoholism

- Alpha
 - Use alcohol to relieve pain more frequently and in greater amounts than socially accepted
- Beta
 - Drink heavily, experience health and social problems but are not addicted
- Gamma
 - Experience loss of control, have increased tolerance, craving, and withdrawal

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More subtypes

- Delta
 - Similar to Gamma but do not lose control over amount consume
 - Cannot stop from using
- Epsilon
 - Similar to Gamma but are binge or periodic drinkers

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Stages of Alcoholism

- Drinkers progress through 4 distinct stages (later 5)
- Prealcoholic symptomatic phase
- Prodromal Phase
- Crucial Phase
- Chronic Phase

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Prealcoholic Phase

- Drinking is associated with rewarding relief from tension or stress.
- Persons who are predisposed will increase their frequency over time
- Tolerance to alcohol develops. Need more drug to get the same effect.

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Prodromal Phase

- Marker for the stage is blackouts
 - Drinker seems normal but has no recollection of what they did
- Person also has an increased need for alcohol
- Hides alcohol
- Drinks when others are not looking
- Has increased guilt

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Crucial Phase

- Key marker is Loss of Control over drinking
- Person cannot abstain from drinking
- Person cannot stop once they begin drinking
- Will drink in the morning
- Begins to experience problems with work, family, and social life
- Often avoids family and friends

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Chronic Phase

- Person may drink for days at a time
- Drinking becomes obsessive
- Physical and emotional problems develop

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Other Studies

- Vaillant
- Two major studies (one 45 years)
- Identified four patterns
 - Progressive alcoholism
 - Return to asymptomatic drinking
 - Stable abstinence
 - Atypical, nonprogressive alcoholism

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Results

- Supported Jellinek's model of progressive alcoholism
- Also supported the notion that some people
 - Did not progress
 - Returned to social or asymptomatic drinking (18/110 subjects: 16%)
- Very damaging to some models (AA) disease concept

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Washton's Model of Cocaine Addiction

- Similar to Jellinek Model
- Contends it is a chronic disease that gets worse unless treated
- Is progressive and predictable
- Three stages
 - Early
 - Middle
 - Late

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Early

- Altered brain chemistry
- Obsessive thoughts
- Cravings
- Lifestyle changes

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Middle

- Loss of control
- Cravings
- Denial
- Increasing physical and psychological consequences
- Impaired school/work performance

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Late

- Failure at efforts to stop
- Severe financial problems
- Chronic depression
- Cocaine psychosis
- Death

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Problems with the Disease Model

- Still have not found the major underlying variable that causes the "disease"
- If genetic, should have a gene
 - Have not found one yet
- If learned should be able to be unlearned.
 - Works for some but not for others

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More Problems

- Why do some people not progress to alcoholism if they come from parents that both are alcoholics?
- Why do some alcoholics become social drinkers?
- Are major problems with the model

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Conclusion

- Is the predominant model in the U.S.
- Is not accepted by everyone.
- Has some problems with validity and reliability
- Cannot explain some major problems
 - Spontaneous recovery

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