Nutritional / Disease Theories of Substance Abuse

Psychology 470
Introduction to Chemical Addictions
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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

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.

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

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.

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
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.

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.

Nutrition Models and Drug Use / Abuse

- Poor relationship for other compounds
  - Methamphetamine
  - 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

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.

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

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
Early Theorists

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

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

Rev. Lyman Beecher (1825)

- Contended intemperance was an evil habit
- Concluded his sermons with the contention that intemperance was a disease as well as a crime.

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

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

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".

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

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

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

Contended there were three types of alcoholics
- Acute
- Periodic
- Chronic

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

Periodic (Proxysmal)
- 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
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

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

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.

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.

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

Crothers

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

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

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
- 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.

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.

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
Consequence

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

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”

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.

So, Who Developed the New Disease Model of Alcoholism?

- 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.

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

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
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

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

Cont.

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

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

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

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
Stages of Alcoholism

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

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.

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

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

Chronic Phase

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

Other Studies

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

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

Early

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

Middle

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

Late

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

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
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

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