How the Physiology of Addiction Complicates Biblical Counseling

Charles Hodges

Introduction: Caffeine, Coke Zero and Me!

A. What is Addiction?

- "Very simply, an addict is someone whose life is controlled by drugs."

B. DSM5. Substance abuse disorder. Four aspects with 11 criteria.

- Impaired control.
    1. Takes substance in larger amounts or for longer than should.
    2. Expresses desire to quit or reduce, but fails on multiple occasions.
    3. Spends a great deal of time, obtaining, using or recovering from use. May use all their time to get and use it.
    4. Craving. Intense desire or urge to get the drug. Can be driven by being in the place where it has been used or with friends. It is the cigarette and the cup of coffee.

- Socially impaired.
    5. Failing duties in school work home.
    6. Continues to use despite social and personal problems that it causes.
    7. Social, recreational, and work activities are given up.

- Risky use.
    8. Uses substance in physically hazardous ways.
    9. Continues to use despite knowing the physical, and psychological damage it is doing.

- Pharmacological.
    10. Tolerance. Needs an ever-increasing amount of the substance for the same result.
    11. Withdrawal. Significant, uncomfortable and at times life threatening symptoms if substance is stopped.

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C. What isn't addiction?

1. Substance induced disorders.
2. Presence of tolerance and dependence does not meet the criteria.
3. This is treacherous ground in our current opioid friendly medical environment. Pain isn't the fifth vital sign.

D. What would I want to tell those who struggle from a Biblical viewpoint?

1. Pursuing intoxication of any kind is a sin. Ephesians 5 15-21.
2. The issue is who will control our lives? Ephesians 5:18.
3. Idolatry, sorcery, and drunkenness are found together. Ephesians 5:20-21.
4. We have a choice in the matter. Galatians 5:13-26, 6:7-9.
5. It is a matter of "hearts trained in greed." 2 Peter 2:14.
6. Hope comes from grace, salvation, and repentance. Philippians 2:12-13.

E. Physiology and Biblical counseling.

1. How do these drugs work in the brain?
2. Mesolimbic Dopamine System. Reward or pleasure pathway.
3. Seven sites that these drugs can act upon.

    - Dopamine (DA)— cocaine, amphetamines, alcohol.
    - Serotonin (SER)— LSD, alcohol.
    - Endorphins (END)— opioids, alcohol.
    - GABA— benzodiazepines, alcohol.
    - Glutamate (GLU)— alcohol.
    - Acetylcholine (ACH)— nicotine, alcohol.
    - Endocannabinoids (ENDB)— marijuana, alcohol.[i]

4. These sites are all located near the base of the brain and involved in some aspect of feeling good, and all are affected by these drugs.

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F. Alcohol.

1. "It is toxic to almost everything . . . liver, heart, brain, gut, pancreas." One ounce a day increases risk for all cancers from lips to the exit. *
2. Remember E3 above. Alcohol affects all the receptors in the reward/pleasure pathway.
3. Socially acceptable. Easily obtained.
4. Tolerance develops quickly. Withdrawal symptoms develop quickly as well. Think "The Hangover."
5. There is likely a hereditary disposition to dependence and addiction for those who choose to drink. 60% hereditary. 40% social.
6. Men at greater risk than women. Male muscle mass greater. Female body has higher fat content. Muscle has higher water content. Men can drink more to arrive at same blood alcohol level as women who drink less.
7. Works in the GABA system as an anxiolytic.

G. Cocaine/Amphetamines.

1. Meets all criteria except withdrawal. Depends to whom you are talking.
2. Blocks dopamine reuptake.
3. Users describe amazing state of well-being and euphoria. Keeps them coming back.
4. Users develop tolerance requiring higher doses. Stopping abruptly leads to depression.
5. Amphetamines have similar effects but operate by releasing dopamine. Amphetamines are highly addictive.
6. Users feel better on the drugs. Euphoria, exhilaration, alertness, feelings of wellbeing and confidence.
7. As the drug level declines, users crash. Cravings are intense.
8. Amphetamines will become the next addiction crisis in the US.

* Brick, John; Erickson, Carlton K. Drugs, the Brain, and Behavior: The Pharmacology of Drug Use Disorders (p. 174). Taylor and Francis. Kindle Edition

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H. Opioids: the most visible drug addiction problem in the world.

1. US (population 4%) consumes 85% of all opiates made today. US consumes almost all the Vicodin/hydrocodone.
2. Became socially acceptable. Pain became the fifth vital sign.
3. Scientific ignorance. 1898 Bayer introduces heroin as a non-addictive substitute for morphine.
4. Endorphins and brain receptors. Euphoria becomes the driver.
5. Tolerance develops in days. Dependence in as little as 14 days of regular use. Withdrawal symptoms are rarely fatal, but amazingly uncomfortable.
6. Requires extended care for most.

I. Marijuana. Wackytobaccy.

1. It is addicting.
2. It has its own set of neuro-receptors much like the opioids. We make our own.
3. Calms anxiety, enhances appetite. 100 times as many cannabinoid receptors as opiate receptors in the brain.
4. False sense of creativity, short term memory impairment, declining intelligence with regular use.
5. Tolerance develops in several days. Withdrawal develops late because of high fat solubility of THC.
6. Produces craving in about 9% of users.
7. BPD1 and Schizophrenia. Panic attacks on higher doses.
8. Changes brain structure.

J. Anxiolytics

1. Works in the GABA receptors much like alcohol.
2. Produces withdrawal of a difficult nature.

K. Caffeine/Nicotine