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Addiction Messenger

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Ideas for Treatment Improvement

Medication-Assisted Treatment

Part 3 - Tobacco and Other Stimulant Dependence

Across the spectrum of available medications designed to assist recovery from substance use disorders, products to help individuals cope with withdrawal and cease tobacco use are relatively plentiful. On the opposite end of the spectrum, there are no FDA-approved medications for use as a recovery aid for other stimulant dependencies, although research is active and ongoing. This final article in our series on MAT will explore both ends of the spectrum, what is currently available and what looks promising for the future.

Tobacco Cessation and AOD Treatment

A literature review on the cessation of tobacco use during substance abuse treatment (Baca & Yahne, 2009) states: "More deaths are caused each year by tobacco use than by all deaths from HIV, illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined.... It is imperative that those of us that work in substance abuse know that, relative to other substances, tobacco is by far the most harmful and deadly." The review found percentages of smokers in substance abuse treatment (among five countries, including the U.S.) ranged from 80 to 98%, compared to 21% of the general adult U.S. population.

Clearly, AOD counselors are in a unique position to help. Baca & Yahne (2009) conclude: "Research supports two key findings: (a) smoking cessation during substance abuse treatment does not impair outcome of the presenting substance abuse problem; and, (b) smoking cessation may actually enhance outcome success.... The majority of evidence supports concurrent treatment for tobacco and other substances." And: "Once the individual is dependent on both smoking and drinking, urges to smoke can correlate significantly with urges to drink..."

Tobacco Cessation Guidelines

In 2008, the US DHHS Public Health Service guidelines, *Treating Tobacco Use and Dependence*, were updated to include new effective clinical treatments:

- Counseling and medication are effective when used by themselves for treating tobacco dependence... however, (the combination) is more effective than either alone.
- Numerous effective medications are available for tobacco dependence, and clinicians should encourage their use by all patients attempting to quit – except when medically contraindicated or with specific populations for which there is insufficient evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents).

Medical Aides

The Guidelines identify seven FDA-approved tobacco cessation medications: "These first-line medications have an established empirical record of effectiveness, and clinicians should consider these agents first in choosing a medication." They include five Nicotine Replacement Therapies (NRT): nicotine patch, gum, lozenge, inhaler,

*"Thank heaven, I
have given up
smoking again!...
God! I feel fit.
Homicidal, but fit.
A different man.
Irritable, moody,
depressed, rude,
neroy, perhaps; but
the lungs are fine."*

*~ A.P. Herbert (English
author, 1890 – 1971) ~*

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Next Series:

**Cognitive
Behavioral
Therapy**

and nasal spray; plus two non-nicotine pharmacotherapies: bupropion SR (sustained release), and varenicline. For the first time the Guidelines provided not only written but numerical “strength of evidence” ratings for many aspects of treatment. Ratings ranged from “A” (“multiple well-designed randomized clinical trials... [that] yielded a consistent pattern of findings”) down to “C”. All but one medication was rated “A”, with nicotine lozenges rated “B”.

Psychotherapeutic Medications 2008 (Mid-America ATTC) provides excellent information on a broad range of psychotherapies, including addiction medications. It is a main source for information here on nicotine cessation medications, along with the Guidelines. Both are accessible on-line and both include more information on dosage, side effects, contraindications, and precautions.

Nicotine's Effect: “Nicotine... crosses the blood-brain barrier and activates the brain’s reward center. This causes the brain to release noradrenaline and dopamine, which act as stimulants (implicated in mood, memory, and a sense of well-being). Nicotine remains active for 20-40 minutes in the brain, and then withdrawal symptoms begin, leading to cravings... withdrawal symptoms include irritability, anger, impatience, restlessness, difficulty concentrating, insomnia, increased appetite, anxiety, and depressed mood (Mid America ATTC, 2008).”

NRT Medications deliver nicotine with the intent to replace, at least partially, the nicotine obtained from cigarettes, to reduce the severity of withdrawal symptoms and improve cessation outcomes. The patch, gum, and lozenge are available over the counter. The patch is available in three strengths and a “step-down” approach is generally used over 8 to 10 weeks, a new patch applied each day. Lozenges and gum are recommended for up to 12 weeks, with an upper limit of 20 lozenges or 24 pieces of gum per day. The nasal spray and inhaler, by prescription, are recommended for use up to six months.

Bupropion SR (Zyban®, Wellbutrin®, and generics) is thought to affect dopamine and norepinephrine levels, and block nicotinic acetylcholinergic receptors, thereby decreasing cravings and symptoms of withdrawal. An antidepressant that helps with withdrawal anxiety and depression, the drug is usually started 7-14 days before a targeted smoking cessation date and is recommended for use up to six months. Its use roughly doubles cessation rates relative to placebo.

Varenicline (Chantix®) is the most recently FDA approved medication. A partial agonist, it reduces

craving by binding to nicotine receptors in the brain, not only reducing withdrawal symptoms but resulting in a less satisfying smoking experience. It has better smoking cessation outcomes compared to bupropion; the approved course is 12 weeks, but an additional 12 weeks may increase the likelihood of long-term smoking cessation.

Duration of Use and Medication Combinations. Relatively brief therapy (e.g., 8-12 weeks with NRT) may be adequate for some tobacco users, while others may need to continue therapies longer. The Guidelines caution against “extended use of medications”; however, Hays et al (2009) state that while it is appropriate to attempt to wean every patient “some experienced tobacco treatment experts have suggested that prolonged or indefinite therapy with an approved... cessation medication... may be required to prevent relapse in certain smokers.”

Generally, the more intense the treatment the higher the likelihood of success. Options for relapse include trying a longer course of treatment, a first-line medication not previously used, or a combination of medications. Combinations the Guidelines identify as particularly effective are the nicotine patch plus bupropion SR (the only FDA-approved combination, rated “A”); nicotine patch plus nicotine inhaler; and long-term use of the nicotine patch (more than 14 weeks) plus another NRT (gum or spray).

Suggestions for AOD Counselors

Whether or not AOD treatment agencies offer treatment on-site, counselors can help clients by being knowledgeable about the spectrum of smoking cessation options and their potential benefits. Cessation medications are costly but treatment offers such great returns in both improved health and cost savings that many medical plans provide coverage for tobacco cessation counseling and prescriptions. The following are examples of costs (*estimates only*) obtained March 31, 2010, from DestinationRx.com for a 30-day supply of typical doses: nicotine inhaler, 1/month (*Nicotrol*® \$189.22–195.37); nicotine spray, 10 ml bottles, 4/month (*Nicotrol*® \$179.98–189.21); bupropion SR, 150 mg tablets, 2/day (*generic* \$69.98–103.26, *branded generic Buprobán*® \$96.75, *Zyban SR*® \$197.00–208.65, *Wellbutrin SR*® \$204.17–206.73); and varenicline, 2 tablets/day (*Chantix PAK*® \$143.61).

Pharmacologic Approaches: Other Stimulants

There are no FDA-approved medical aides for treating stimulant dependence, though strides have been made in developing effective psychosocial treatments. Given the high personal and societal costs related to stimulant dependency – and the chronic, relapsing

nature of recovery from stimulants – developing medical aides is a high priority of NIDA research. Focusing mainly on cocaine and methamphetamine (MA), researchers are actively identifying and testing medications that might assist with detoxification, relapse prevention, and acute toxic emergencies.

While it's known that chronic use of cocaine and/or MA has profound effects on the dopamine system, there is still much mystery around the complex mechanisms of effect and how these drugs stimulate brain adaptations that lead to dependence. Areas of research include the brain site and molecular targets where the drugs bind to cause rewarding effects, and impacts to brain circuitry and cell signaling that make users vulnerable to addiction. Several medical aides have shown encouraging results in controlled clinical trials. It is hoped medical aides will soon be available to the field.

Cocaine: More than 60 medications have been investigated (mainly over the past two decades) as aides in treating cocaine abuse and dependency. Per NIDA (2009): "Several medications marketed for other diseases show promise and have been reported to reduce cocaine use in controlled clinical trials. Among these, disulfiram (used to treat alcoholism) has produced the most consistent reductions in cocaine abuse."

Some medications are being evaluated for use with both cocaine and MA dependence. For example, modafinil, currently FDA-approved for treating narcolepsy, is a glutamate enhancer with alerting and mood improvement effects. It is a leading medication in cocaine research and has reached the stage of confirmatory testing, showing promise in both reducing withdrawal symptoms and helping blunt the effects of cocaine. It also shows promise for MA dependency in helping treat dysphoria, reduce cravings, and improve cognitive functions. In addition, for cocaine a "vaccine that prevents entry of cocaine into the brain holds great promise for reducing the risk of relapse (NIDA, 2009)."

Methamphetamine. Research into medical aides for treating MA dependency is in early stages, but has accelerated in the past decade. Per NIDA (2006): "Recent study findings reveal that bupropion, the anti-depressant marketed as Wellbutrin, reduced the methamphetamine-induced "high" as well as drug cravings elicited by drug-related cues. This medication and others are currently in clinical trials, while new compounds are being developed and studied in preclinical models." Other medications of interest and promise include methylphenidate, baclofen, topiramate, lobeline, gamma-vinyl-GABA,

naltrexone, modafinil, and rivastigmine.

Conclusion

MAT for nicotine dependence in combination with counseling has been shown to yield the best outcomes. Interestingly, tobacco cessation medications initially faced stigma, but as they have exhibited results in the field that stigma has eroded. Hopefully, medications with demonstrated positive impact on other substance use disorders will follow this path so that they, too, will be fully utilized as aides to recovery.

Sources

- Baca CT, Yahne C (2009). Smoking cessation during substance abuse treatment: What you need to know. *Journal of Substance Abuse Treatment*, 36:205-219.
- Centers for Disease Control: Smoking and Tobacco Use: Fact Sheets (Fast Facts; accessed 2010 March 23). http://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm
- Fiore MC, et al. Treating Tobacco Use and Dependence: 2008 Update – Clinical Practice Guidelines. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Agency for Healthcare Research and Quality (accessed 2010 March 16): <http://www.ahrq.gov/clinic/cpgsix.htm>. Also, a brief, helpful summary of the Guidelines: www.guideline.gov/summary/summary.aspx?doc_id=12520&nbr=6444&ss=6&x1=999
- Hays J., Ebbert J., Sood A (2009). Treating Tobacco Dependence in Light of the 2008 US Department of Health and Human Services Clinical Practice Guideline (Concise Review for Clinicians). *Mayo Clinic Proceedings*, 84(8):730-736. <http://www.mayoclinicproceedings.com/content/84/8/730.full>
- Kampman K (2008). The Search for Medications to Treat Stimulant Dependence. *Addiction Science and Clinical Practice: A Journal of the National Institute on Drug Abuse*, 4(2):28-38. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2797110/pdf/ascp-04-2-28.pdf>
- Mid-America ATTC, SAMHSA, CSAT. Psychotherapeutic Medications 2008: What Every Counselor Should Know. Kansas City, MO. www.attcnetwork.org/regcenters/productdetails.asp?prodID=389&rcID=5
- Montoya I & Vocci F (2008). Novel Medications to Treat Addictive Disorders. *Current Psychiatry Reports*, 10:392-398. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2610431>
- NIDA Research Report Series: Cocaine Abuse and Addiction (2009). U.S. Department of Health and Human Services, NIH Publication Number 09-4166. <http://www.drugabuse.gov/researchreports/cocaine/Cocaine.html>
- NIDA Research Report Series: Methamphetamine Abuse and Addiction (2006), U.S. Department of Health and Human Services, NIH Publication Number 06-4210. <http://www.drugabuse.gov/ResearchReports/methamph/methamph.html>

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TEST Series 37

1. When prescribed and monitored carefully, FDA-approved alcohol use disorder (AUD) medications are neither addictive or prone to abuse and generally have mild side effects.

True or False

2. Alcohol use disorder (AUD) medications have been shown to:

- a. Relieve symptoms of withdrawal and lengthen periods of abstinence.
- b. Allow brain cells to readapt to a normal alcoholic state, helping patients stabilize and focus on recovery.
- c. "a" and "b".
- d. None of the above.

3. The three medications FDA-approved as aides for treating individuals with an AUD are (fill in the blanks) _____,

_____, and _____.

4. Agonists bind to and activate opioid receptors, causing effects commonly associated with opioid use

True or False

5. Research shows MMT is safe when used as prescribed, and is effective in:

- a. helping stop or reduce illicit opioid use.
- b. decreasing adverse consequences related to use of nonsterile injection equipment (such as cellulitis, hepatitis, and HIV infection).
- c. decreasing criminal behavior associated with obtaining drugs, and helping improve overall adjustment (e.g., reducing psychiatric symptoms, unemployment, and family or social problems).
- d. a and b.
- e. All of the above.

6. The four medications approved for opioid treatment are (fill in the blanks):

- 1. _____
- 2. _____
- 3. _____
- 4. _____

7. Of the four FDA-approved medications for opioid treatment, only two are commonly used; they are (fill in the blanks):

_____ and _____.

8. Per the US DSHS 2008 Guidelines *Treating Tobacco Use and Dependence*, in nicotine cessation treatment the combination of counseling and medications are more effective than either used alone.

True or False

9. The 2008 Guidelines identify, rate, and recommend for use (fill in the number): _____ FDA-approved smoking cessation medications shown to reliably increase long-term smoking abstinence rates. List two of the medications (fill in the blanks):

_____ and _____.

10. Options for smokers who relapse in nicotine cessation treatment include trying (fill in the blanks):

_____, or _____.

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