

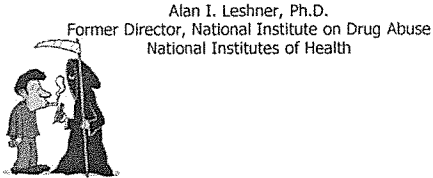
Pharmacologic Treatment of Tobacco Dependence

■ Jack Amole, DNP, APRN



WHAT is ADDICTION?

"Compulsive drug use, without medical purpose,
in the face of negative consequences"



Alan I. Leshner, Ph.D.
Former Director, National Institute on Drug Abuse
National Institutes of Health

DSM-V Tobacco Use Disorders

- Problematic pattern of tobacco use leading to clinically significant impairment or distress Manifested by 2+ in 12-mos
 - 1. Unsuccessful effort to cut down or stop
 - 2. Tolerance
 - 3 Withdrawal
 - 4. Increase use
 - 5. Continued use despite knowledge of physical or psychological problems

DSM-V TOBACCO RELATED DISORDERS

■ Tobacco Withdrawal

Daily Use of tobacco

Abrupt cessation/reduction followed within 24 hrs by 4+:

1. Irritability
2. Insomnia
3. Anxiety
4. Difficulty Concentrating
5. Increased appetite

Tobacco Statistics

- Tobacco use is the leading preventable cause of illness and death in the U.S.

- U.S. Prevalence = 18.1%
- FL Prevalence = 17.5%
- Florida ranks 18th

- 5 million smokers will die over the next decade if left untreated
 - 440,000 Americans die annually from tobacco related disease



STATISTICS (cont)

■ Overall

- 18.1% of American adults are current smokers
- Represents about 42.1 million Americans

■ By Gender

- 20.5% of adult men
- 15.8% of adult women



By Age

- 17.3% of adults aged 18–24 years
- 21.6% of adults aged 25–44 years
- 19.5% of adults aged 45–64 years
- 8.9% of adults aged 65 years & older



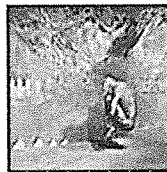
By Race/Ethnicity

- 21.8% of American Indians/Alaska Natives (non-Hispanic)
- 10.7% of Asians (non-Hispanic; excludes Native Hawaiians and Pacific Islanders)
- 18.1% of Blacks (non-Hispanic)
- 12.5% of Hispanics
- 19.7% of Whites (non-Hispanic)
- 26.1% of Multiple race individuals



Psychiatric Population:

- 41% - 80% of patients with a psychiatric and/or substance abuse diagnosis are tobacco dependent
- Psychiatric and/or substance abuse patients are at higher risk for tobacco related illness and death

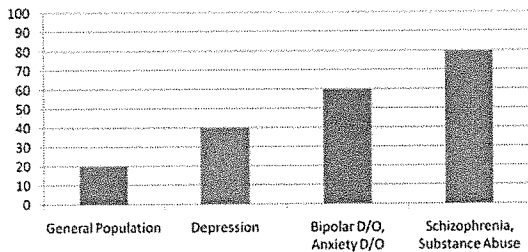


PSYCHIATRIC POPULATION (cont)

- Seriously mentally ill patients die two and a half decades earlier on average than the general population with tobacco related conditions being the leading cause of death
- Nicotine dependence is the most prevalent substance abuse disorder



Tobacco Use in Psychiatric & Substance Abuse Patients



Schizophrenia & Nicotine

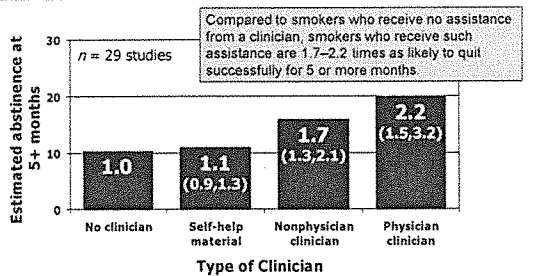
- Fewer & poorly functioning nicotinic receptors
- May improve cognition, attention, information processing & EPS
- Nicotine may temporarily normalize sensory disruptions of schizophrenia

Tobacco Dependence in the Psychiatric & Substance Abuse Populations

- Many mental health and addiction treatment clinicians continue to neglect the problem of tobacco dependence
- Little or no tobacco cessation training for professionals who work with the psychiatric and/or substance abuse populations

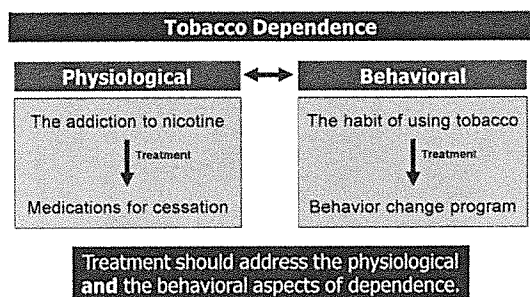


EFFECTS of CLINICIAN INTERVENTIONS

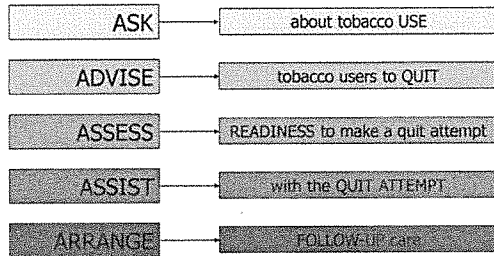


Fiore et al. (2000). *Treating Tobacco Use and Dependence. Clinical Practice Guideline*. Rockville, MD: USDHHS, PHS.

TOBACCO DEPENDENCE: A 2-PART PROBLEM



The 5 A's: REVIEW



NICOTINE PHARMACODYNAMICS: WITHDRAWAL EFFECTS

- Depression
- Insomnia
- Irritability/frustration/anger
- Anxiety
- Difficulty concentrating
- Restlessness
- Increased appetite/weight gain
- Decreased heart rate
- Cravings*

Most symptoms
peak 24–48 hr
after quitting and
subside within
2–4 weeks.

HANDOUT

PHARMACOLOGIC METHODS: FIRST-LINE THERAPIES

Three general classes of FDA-approved drugs for smoking cessation:

- Nicotine replacement therapy (NRT)
 - Nicotine gum, patch, lozenge, nasal spray, inhaler
- Psychotropics
 - Sustained-release bupropion
- Partial nicotinic receptor agonist
 - Varenicline

**Currently, no medications have an FDA indication
for use in spit tobacco cessation.**

NRT: RATIONALE for USE

- Reduces physical withdrawal from nicotine
- Allows patient to focus on behavioral and psychological aspects of tobacco cessation

NRT APPROXIMATELY DOUBLES QUIT RATES.

TRANSDERMAL NICOTINE PATCH: OVERVIEW & PRIMARY SIDE EFFECTS

ADVANTAGES

- The patch provides consistent nicotine levels.
- The patch is easy to use and conceal.
- Fewer compliance issues are associated with patch use.

DISADVANTAGES

- Patients cannot titrate the dose.
- Allergic reactions to the adhesive may occur.
- Patients with dermatologic conditions should not use the patch.

NICOTINE GUM: OVERVIEW & PRIMARY SIDE EFFECTS

ADVANTAGES

- Gum use may satisfy oral cravings.
- Gum use may delay weight gain.
- Patients can titrate therapy to manage withdrawal symptoms.

DISADVANTAGES

- Gum chewing may not be socially acceptable.
- Gum is difficult to use with dentures.
- Patients must use proper chewing technique to minimize adverse effects.

NICOTINE LOZENGE: OVERVIEW & PRIMARY SIDE EFFECTS

ADVANTAGES

- Lozenge use may satisfy oral cravings.
- The lozenge is easy to use and conceal.
- Patients can titrate therapy to manage withdrawal symptoms.

DISADVANTAGES

- Gastrointestinal side effects (nausea, hiccups, and heartburn) may be bothersome.

NICOTINE NASAL SPRAY: OVERVIEW AND PRIMARY SIDE EFFECTS

ADVANTAGES

- Patients can easily titrate therapy to rapidly manage withdrawal symptoms.

DISADVANTAGES

- Nasal/throat irritation may be bothersome.
- Nasal spray has higher dependence potential.
- Patients with chronic nasal disorders or severe reactive airway disease should not use the spray.

NICOTINE INHALER: OVERVIEW & PRIMARY SIDE EFFECTS

ADVANTAGES

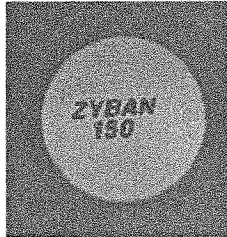
- Patients can easily titrate therapy to manage withdrawal symptoms.
- The inhaler mimics the hand-to-mouth ritual of smoking.

DISADVANTAGES

- The initial throat or mouth irritation can be bothersome.
- Cartridges should not be stored in very warm conditions or used in very cold conditions.
- Patients with underlying bronchospastic disease must use the inhaler with caution.

BUPROPION SR (WELLBUTRIN OR ZYBAN)

- Non-nicotine cessation aid
- Sustained-released antidepressant
- Affects levels of norepinephrine & dopamine
- Decreases craving for cigarettes & symptoms of nicotine withdrawal



BUPROPION SR: OVERVIEW

ADVANTAGES

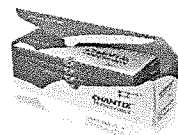
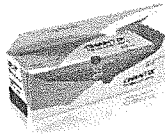
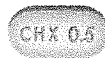
- Bupropion is an oral formulation with twice-a-day dosing.
- Bupropion might be beneficial for patients with depression.
- Zyban and Wellbutrin are same drug

DISADVANTAGES

- The seizure risk is increased.
- Don't use if history of cranial trauma, severe hepatic cirrhosis, anorexia, or bulimia
- Pregnancy: Category C

VARENICLINE

- Nonnicotine cessation aid
- Partial nicotinic receptor agonist
- Oral formulation



VARENICLINE: SUMMARY

ADVANTAGES

- Varenicline is an oral formulation with twice-a-day dosing.
- Varenicline offers a new mechanism of action for persons who previously failed using other medications.

DISADVANTAGES

- May induce nausea in up to one third of patients.
- Post-marketing surveillance data not yet available.

Dosing

- 0.5 mg daily for 3 days followed by 0.5 mg twice daily for 4 days, then 1 mg twice daily for the remainder of the treatment period. Duration of therapy is 12 weeks. If treatment is successful, an additional 12 weeks is recommended to increase the chance of long-term abstinence.

VARENICLINE: ADVERSE EFFECTS

Common side effects ($\geq 5\%$ and twice the rate observed in placebo-treated patients) include:

- Nausea
- Sleep disturbances (insomnia, abnormal dreams)
- Constipation
- Flatulence
- Vomiting

Varenicline Black Box Warning

- The US Food and Drug Administration (FDA) issued a Black Box Warning on varenicline on July 1, 2009, because of reports of serious adverse events, including depression, suicidal ideation, and suicidal actions.

COMBINATION PHARMACOTHERAPY

Reserve for patients unable to quit using monotherapy.

■ Combination NRT

Long-acting formulation (patch)

- Produces relatively constant levels of nicotine

PLUS

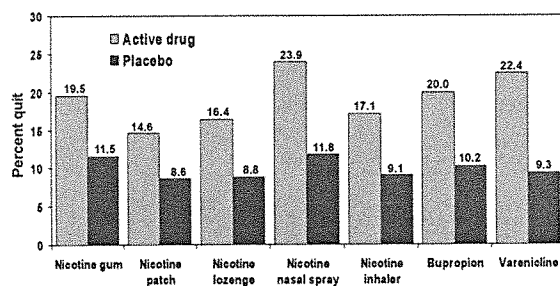
Short-acting formulation (gum, lozenge, inhaler, nasal spray)

- Allows for acute dose titration as needed for withdrawal symptoms

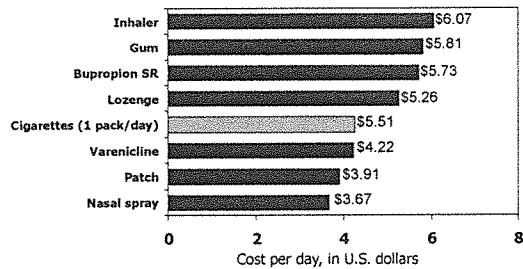
■ Bupropion SR + NRT

- The safety and efficacy of combination of varenicline with NRT or bupropion has not been established.

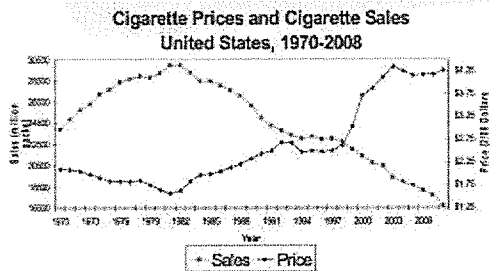
LONG-TERM (≥ 6 month) QUIT RATES for AVAILABLE CESSATION MEDICATIONS



COMPARATIVE DAILY COSTS of PHARMACOTHERAPY



Cigarette Sales & Prices



The RESPONSIBILITY of HEALTH PROFESSIONALS

It is **inconsistent**
to provide health care and
—at the same time—
remain silent (or inactive)
about a major health risk.

**TOBACCO CESSATION
is an important component of
THERAPY.**

BRIEF COUNSELING: ASK, ADVISE, REFER

- Brief interventions have been shown to be effective
- In the absence of time or expertise:
 - Ask, advise, and refer to other resources, such as local programs or the toll-free quitline
1-800-QUIT-NOW



This brief
intervention can
be achieved in
30 seconds.

FL QUIT LINES

- **3 Ways to Quit**
- Talk to a Quit Coach® who can help you quit tobacco.
1-877-U-CAN-NOW
1-877-822-6669
- Online help quitting tobacco is only a few clicks away.
- www.quitnow.net/florida
- Looking for local face-to-face help? Find classes near you.
- www.ahcetobacco.com

E-Cigarettes

- Many pts seem to support using e-cigarettes when quitting smoking cigarettes
- Fewer toxins are inhaled, but nicotine addiction continues
- Few studies have been done with mixed results
- Do e-cigs have a role in smoking cessation?

Parting Words

1000 Americans quit smoking everyday...

...by dying!!!
