Treating Tobacco Use Disorder among Individuals Living with Mental Illnesses

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Disclosures

- Chizimuzo Okoli has no relevant disclosures pertinent to this educational content

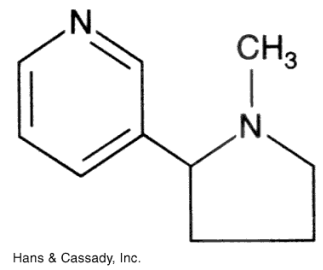
Learning Objectives

- **Outline** a brief background on tobacco product use
- **Discuss** the tobacco use epidemic among people with mental illness (MI)
- **Report** behavioral treatment considerations and pharmacotherapy for tobacco treatment among people with MI

Significance of Tobacco Use Disorder

Why is tobacco addictive?

“Nicotine is the drug in tobacco primarily responsible for addiction, and that the pharmacologic and behavioral processes underlying tobacco addiction are similar to those that determine addiction to drugs such as heroin and cocaine”



Nicotine, $C_{10}H_{14}N_2$

U.S. Department of Health and Human Services. (1988). *The Health Consequences of Smoking: Nicotine Addiction. A report of the Surgeon General. (No. DHHS Publication No (CDC) 88-8406)*. Retrieved from Rockville, Maryland

Types of tobacco products

Combustible/Heated

Cigarettes, Cigars, Cigarillos, Bidis, Pipes

Hookah's/ Water pipe

Electronic Nicotine Delivery Systems

Non-combustible

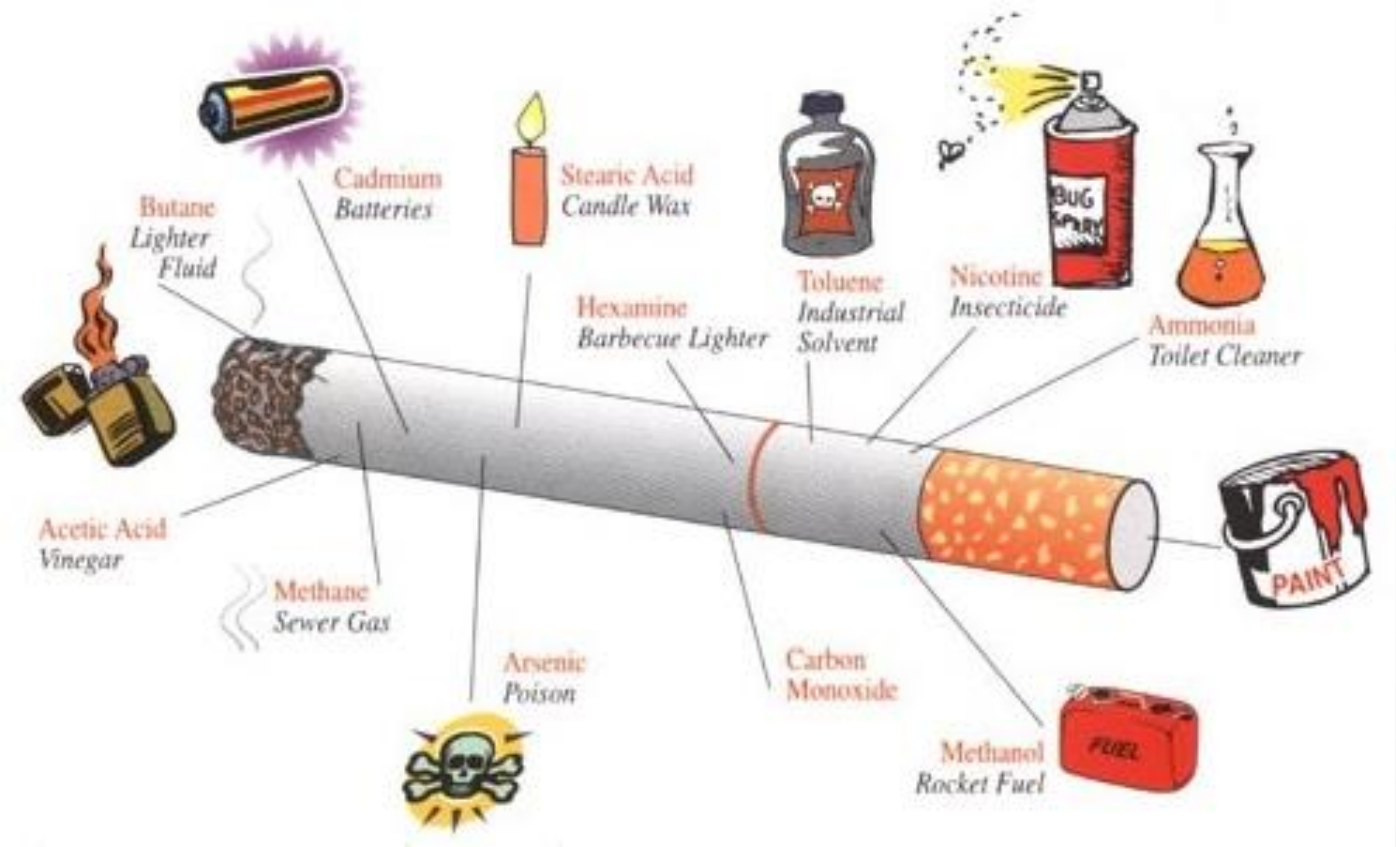
Snus

Chew tobacco

Dissolvable products

Why is tobacco use harmful?

Over 600 ingredients, producing ≥ 7000 chemicals when burned (69 are known carcinogens)



American Lung Association: http://www.lung.org/stop-smoking/smoking-facts/whats-in-a-cigarette.html

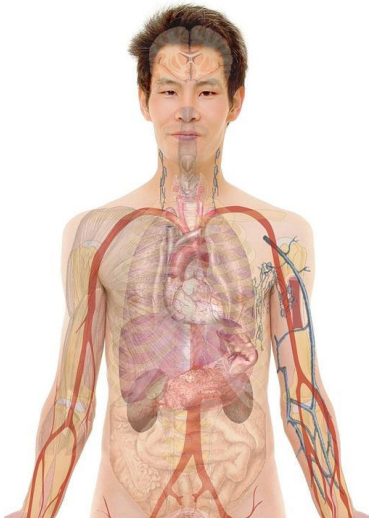
Tobacco Use-Attributable illnesses

Cancers

Bronchus, Lung,
Esophagus, Lip/Oral/pharynx
Cervix uteri, Larynx, trachea
Stomach, Urinary bladder
Leukemia, Colon
Kidney, Pancreas
Liver

Cardiovascular disease

Ischemic heart disease
Cerebrovascular disease
Rheumatic heart disease
Atherosclerosis
Hypertension
Aortic aneurysm
Pulmonary heart disease
Other arterial disease



Respiratory disease

Chronic airways obstruction
Asthma
Bronchitis/emphysema
Pneumonia/influenza
Respiratory tuberculosis

Pediatric disease

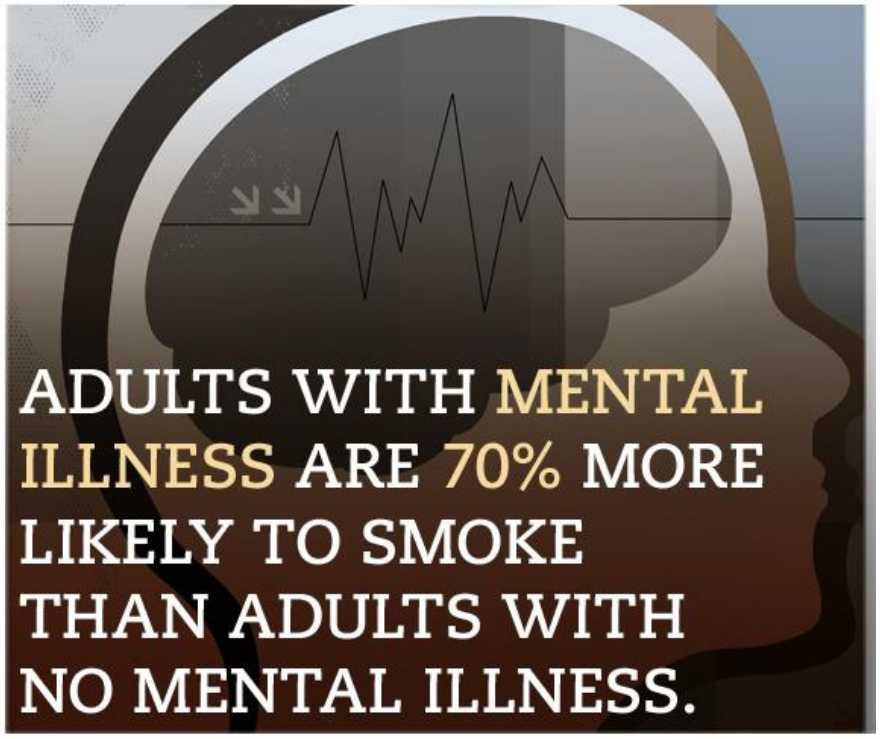
Low birth weight
Respiratory conditions-newborn
Respiratory distress syndrome
Sudden Infant Death Syndrome

Reproductive Problems

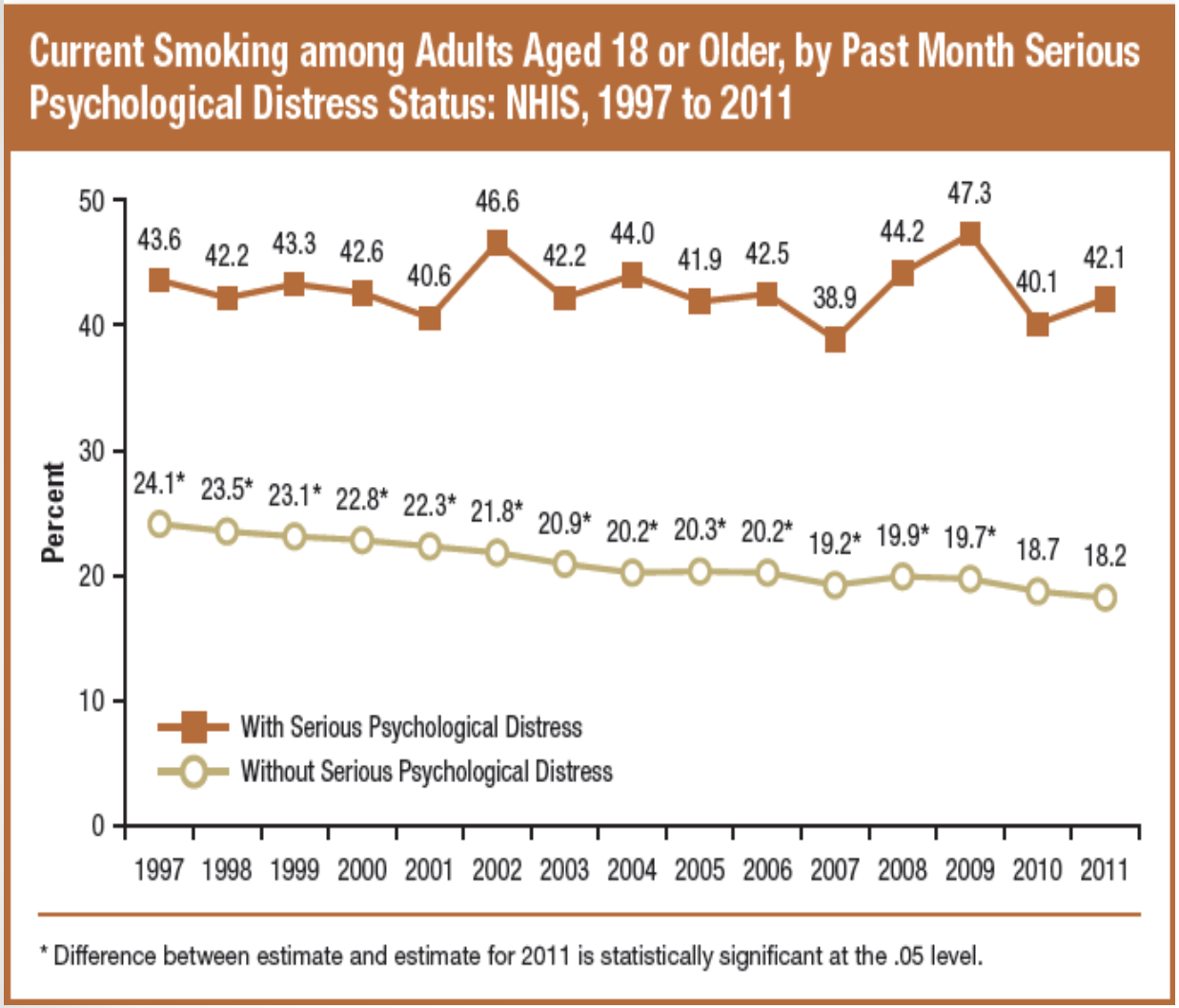
Reduced fertility
Spontaneous Abortion
Placental abruption

US Department of Health and Human Services. "The health consequences of smoking—50 years of progress: a report of the Surgeon General." *Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health* 17 (2014).

Epidemiology of tobacco use in populations living with MI



Smoking and Serious Psychological Distress



"This suggests that tobacco control policies and cessation interventions targeting the general population have not worked as effectively for persons with mental illness."
(Cook et al., 2014 pg. 181)

Data from the National Health Interview Survey. Current smoking is defined as those who had smoked 100 cigarettes in their lifetime and smoked daily or some days at time of the interview. This illustration was obtained with permission from the SAMHSA CBHSQ Report, July 18 2013:http://www.samhsa.gov/data/sites/default/files/spot120-smokingspd_/spot120-smokingSPD.pdf

Cook, B.; Wayne, G.; Kafali, E.; Liu, Z.; Shu, C.; Flores, M. Trends in smoking among adults with mental illness and association between mental health treatment and smoking cessation. *JAMA* **2014**, *311*, 172-182.

Effects of smoking among persons with MI

Smokers with MI:

- Die 5-10 years earlier
- Have more depression and anxiety
- Have more substance use problems
- Have more cardiovascular and cardiopulmonary problems
- Are more likely to commit suicide

Nonsmokers with MI:

- Have better health
- Live longer
- Need less medication
- Have less depression
- Save more money

Parks, Svendsen, Singer, Foti (2006). Morbidity and Mortality in People with Serious Mental Illness.
National Association of State Mental Health Program Directors (NASMHPD). Medical Directors Council www.masmhpd.org

Reasons to treat tobacco use in persons with MI

They **WANT** to quit!	Siru et al., 2009	Review study (9 studies)	• 50% contemplating cessation
	Stockings et al., 2013	Australia (97 inpatients)	• 47% made quit attempt in previous year
	Du Plooy, et al., 2016	South Africa (116 male inpatients)	• 59.4% attempted to quit in the previous year
They **ARE ABLE** to quit!	Anthenelli et al., 2016	RCT (8144 with & without MI)	• Pharmacotherapy (VAR, BUP, NRT) superior to placebo in both groups
	Prochaska et al., 2013	RCT (224 inpatient smokers)	• Motivational counseling + NRT initiated in hospital increased quitting success
Cessation **IMPROVES** Psychiatric symptoms	Taylor et al., 2014	Meta-analysis (26 studies)	• Cessation associated with improvements in depression, anxiety, stress, mood and quality of life

1. Siru, R.; Hulse, G.K.; Tait, R.J. Assessing motivation to quit smoking in people with mental illness: A review. *Addiction* **2009**, *104*, 719-733
2. Stockings, *et al.* Readiness to quit smoking and quit attempts among australian mental health inpatients. *Nicotine & Tobacco Research* **2013**, *15*, 942-949.
3. Du Plooy, et al. (2016). Cigarette smoking, nicotine dependence, and motivation to quit smoking in South African male psychiatric inpatients. *BMC psychiatry*, *16*(1), 403.
4. Anthenelli, et al. (2016). Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *The Lancet, 387*(10037), 2507-2520. doi:10.1016/S0140-6736(16)30272-0
5. Prochaska, et al. Efficacy of initiating tobacco dependence treatment in inpatient psychiatry: A randomized controlled trial. *Am J Public Health* **2013**, *104*, 1557-1565
6. Taylor, et al. (2014). Change in mental health after smoking cessation: systematic review and meta-analysis. Bmj, 348, g1151

Treatment tobacco use among people with MI

Key Recommendations

- Timing of Treatment
- Duration of treatment
- Type of treatment
  - Behavioral therapy (Brief or Intensive)
  - Pharmacotherapy

Timing of treatment

- Delay treatment until symptoms are in remission. For E.g.
  - set quite date in future
  - refer for treatment…coordinate with physician and/or therapist
  - be aware of increased suicide rate for depressed smokers
- Monitor MI symptoms
  - Anticipate potential increase in side-effects of psychotropic medications after initiating smoking cessation

Duration of treatment

- **Flexibility** is key because of greater nicotine dependence and fewer positive past quit attempts.
- Confidence and skill building may be needed before setting a quit date.
- Breaking down quitting into smaller, more concrete pieces may be needed.
- Individual and group and a combination may help and the duration may be extended to increase maintenance.

Brief Behavioral Therapy (10-15 minutes)

1. Ask about tobacco use

- Type of product
- Amount

2. Advise to quit

- Relevant to physical illness
- Relevant to mental illness

3. Assess readiness to quit

- Importance of quitting
- Confidence in quitting
- Readiness in quitting

4. Assist in quitting

- Set quit date
- Offer Pharmacotherapy
- Identify support system

5. Arrange for follow-up/Referral

- Community Programs (e.g. Freedom from Smoking)
- KY Quit line (https://quitnowkentucky.org/en-US/)

Tobacco, The Clinical Practice Guideline Treating. "A clinical practice guideline for treating tobacco use and dependence: 2008 update: a US public health service report." *American journal of preventive medicine* 35, no. 2 (2008): 158.

Intensive Behavioral Therapy (4-24weeks)

1. Psycho-education

- Harms associated with tobacco use
- Prevalence in those living with MI
- Myths about tobacco use and MI
- Use of pharmacotherapy

2. Coping Skills

- Coping with withdrawal
- Managing emotions
- Healthy living

3. Relapse Prevention

- Understanding Slip and Relapse
- Prevention Planning

Lancaster, T., & Stead, L. F. (2017). Individual behavioural counselling for smoking cessation. *Cochrane database of systematic reviews*, (3).

Stead, L. F., Carroll, A. J., & Lancaster, T. (2017). Group behaviour therapy programmes for smoking cessation. *Cochrane database of systematic reviews*, (3).

Recommend Cessation Pharmacotherapy (Nicotine Replacement Therapy)

Product	Mechanism of Action	Dosage	Side effects
Patch	Full agonist on nicotinic acetylcholine receptors in the autonomic ganglia and CNS.	21mg, 14mg, 7mg	Irritation at site of patch placement. -Insomnia or vivid dreams
Gum/ Lozenge	Same as above	2mg or 4mg pieces	Mouth sores, hiccups, jaw ache, nausea, heartburn, headache.
Inhaler	Same as above	1 cartridge delivers 4mg nicotine (6-16 cartridges/day)	Local irritation in mouth and throat, coughing, rhinitis.
Nasal Spray	Same as above	0.5mg dose delivered to each nostril (1-2 per hour)	Nasal irritation, congestion, transient changes in smell & taste

Flowers, L. (2016). Nicotine Replacement Therapy. *American Journal of Psychiatry Residents' Journal*, *11*(06), 4-7..

Recommend Cessation Pharmacotherapy (Bupropion)

Product	Mechanism of Action	Dosage	Contra-indications
Bupropion SR (also known as Zyban or Wellbutrin)	Potential inhibited reuptake of dopamine and norepinephrine. Also potential noncompetitive nicotine antagonist at the neuronal acetylcholine receptors	First week: Days 1-3: 150mg QD Days 4-7: 150mg BID Weeks 2-12: 150mg BID	-History or seizure disorders -Monitor for those with alcohol use/sedatives disorders -Monitor for those with eating disorders -Currently taking an MOAI

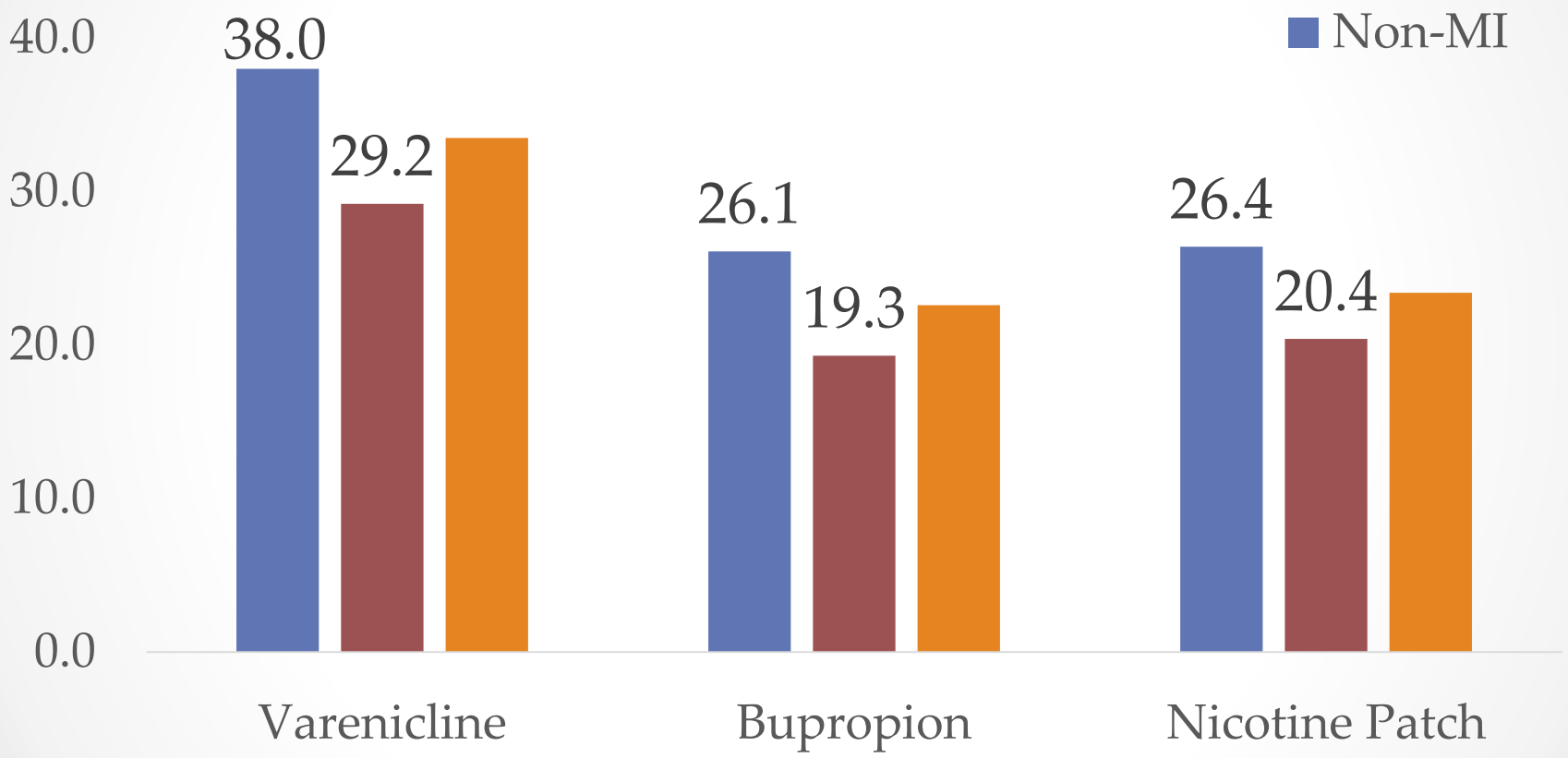
McCarthy, D. E., Jorenby, D. E., Minami, H., & Yeh, V. (2009). Treatment Options in smoking cessation: What place for Bupropion sustained-Release?. *Clinical Medicine. Therapeutics*, *1*, CMT-S2044.

Recommend Cessation Pharmacotherapy (Varenicline)

Product	Mechanism of Action	Dosage	Side effects/ Contra-indications
Varenicline (also known as Chantix)	Partial agonist and antagonist to nicotine at the $\alpha 4\beta 2$ receptor .	First Week Days 1-3: 0.5 mg QD Days 4-7: 0.5mg BID Week 2-12: 1mg BID	-Nausea -Patients with pronounced renal dysfunction.

Burke, M. V., Hays, J. T., & Ebbert, J. O. (2016). Varenicline for smoking cessation: a narrative review of efficacy, adverse effects, use in at-risk populations, and adherence. Patient preference and adherence, 10, 435..

Efficacy of Pharmacotherapy for those with and without MI



Anthenelli, Benowitz, West, St Aubin, McRae, Lawrence, ... & Evins (2016). Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. *The Lancet*, *387*(10037), 2507-2520.

Medications that Have Their Levels Affected by Smoking and Smoking Cessation [60]		
ANTIPSYCHOTICS	Chlorpromazine (Thorazine)	Olanzapine (Zyprexa)
	Clozapine (Clozaril)	Thiothixene (Navane)
	Fluphenazine (Permitil)	Trifluoperazine (Stelazine)
	Haloperidol (Haldol)	Ziprasidone (Geodon)
	Mesoridazine (Serentil)	
ANTIDEPRESSANTS	Amitriptyline (Elavil)	Fluvoxamine (Luvox)
	Clomimpramine (Anafranil)	Imipramine (Tofranil)
	Desipramine (Norpramin)	Mirtazapine (Remeron)
	Doxepin (Sinequan)	Nortriptyline (Pamelor)
	Duloxetine (Cymbalta)	Trazodone (Desyrel)
MOOD STABLIZERS	Carbamazepine (Tegretol)	
ANXIOLYTICS	Alprazolam (Xanax)	Lorazepam (Ativan)
	Diazepam (Valium)	Oxazepam (Serax)
OTHERS	Acetaminophen	Riluzole (Rilutek)
	Caffeine	Ropinirole (Requip)
	Heparin	Tacrine
	Insulin	Warfarin
	Rasagiline (Azilect)	

Brief Case Study

M.B is a 50 year old smoker, who has been smoking **2 pack/day** for 30 years. He has a diagnosis of schizophrenia and started smoking when he was first hospitalized because, "everybody was doing it." He also currently uses alcohol and occasionally binge drinks on the weekends. He wants to quit smoking and rates importance to quit as a 9 (on a scale of 0-10), but confidence as a 4.

A. What may be good smoking cessation medication options for M.B?
B. What would be a less desirable smoking cessation medication choice for him?
C. What can you anticipate could be some challenges while he is quitting smoking?
D. Do you think a group smoking cessation program or an individual plan would be best for him. Why or why not?

Conclusions

- Individuals with MI are disproportionately affected by tobacco use prevalence, disease, and mortality.
- Evidence-based tobacco treatment is effective in these populations including the use of behavioral therapy and pharmacotherapy.
- Psychiatric mental health nurses should overcome their reluctance to treat these populations and consider more training in providing tobacco treatment for these populations.

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Questions??