Tobacco, Mental Illness and Addiction: A Wake Up Call for Treatment Professionals

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Tobacco Use and Mental Illness: A Wake-Up Call for Psychiatrists

Smokers with Behavioral Health Comorbidity (Mental Illness and Addiction) are becoming a Sizeable Group of Smokers Left in the US
US Smoking Prevalence

16 million smokers with current mental illness
~ 1/3 of 51 million smokers in US

NCS-R 2001-2003; Diagnoses using CIDI

Current Smokers by Mental Illness History

41% Past Month
23% None
35% Ever Ill

NCS 1992-1993
Lasser et al, 2000

Three Fourths of Smokers have a Past or Present Problem with Mental Illness or Addiction

Lasser et al., 2000; Data from National Comorbidity Study
Smokers with Behavioral Health Comorbidity are a Tobacco Disparity Group

Smoking is the #1 Cause of Death in People with Mental Illness or Addiction

It’s the Smoke that Kills
Cigarette smoke > 7000 compounds
Acetone, Cyanide, Carbon Monoxide, Formaldehyde
>65 Carcinogen
Benzene, Nitrosamines
Sources of Tobacco Toxins

- Nicotine; nitrosamines
- More than 600; Ammonia, cellulose acetate; flavors
- Thousands; carbon monoxide; formaldehyde; benzene; arsenic, lead; PAH

Recent data from several states have found that people with SMI die, on average, 25 years earlier than the general population

National Association of State Mental Health Program Directors
Medical Directors Council, July 2006; Miller et al., 2006

Causes of Death
(8 states: Az, Mo, Ok, Ri, Tx, Ut, Vi, Va)

http://www.cdc.gov/ncidod/dhqp/2006/apr05_0180.htm
Reduction in CVD (%) from Each Risk factor

Tobacco Causes More Deaths than any Other Substance
- More alcoholics die from smoking related diseases than from alcohol related diseases
- Synergistic effects of alcohol and tobacco ↑ risk of developing pancreatitis and oral cancers
- Smoking reduces recovery from cognitive deficits during alcohol abstinence


Smoking Keeps Consumers from Achieving Recovery:
- Being Financially Stable
- Getting Jobs
- Securing Housing

Callaghan et al., 2013

50% of deaths in schizophrenia, depression and bipolar disorder attributed to tobacco

Hennekens CH. Circulation. 1998;97:1095-1102
Smokers Suffer Financial Consequences and Lower Quality of Life

N=68 smokers with schizophrenia on disability income

73% Food
27% Shelter
Misc. Living Expenses
Cigarettes


Persons with a mental disorder or SUD purchase & consume 30-44% of cigarettes sold in the US

Nic dep and MI (NESARC; Grant 2004)
NIK dep and MI (NCS; Lasser 2000)

Stigma: Smoking is a Barrier to Community Integration

Consumers want Jobs and Housing

Employers and landlords highly stigmatize smokers

Why?
Smoke Free Housing

As much as 60% of airflow in multi-unit housing can come from other units

SHS infiltrates through air ducts, cracks, stairwells, hallways, elevators, plumbing, electrical lines

SHS is Class 1A carcinogen, in the same class as asbestos


Tobacco Use May Worsen Behavioral Health Outcomes

Cessation Doesn't Worsen BH Outcomes
Improved Mental Health with Quitting Smoking

- Meta-analysis 26 studies (14 gen pop, 4 psychiatric, 3 physical conditions, 2 psychiatric or physical, 2 pregnant, 1 post-op)

Taylor et al, BMJ, 2014

Benefits of Smoking

Cognition
- Nicotine/ Nicotinic Receptors
  - Alzheimer's disease
  - Attention deficit disorder
  - Autism
  - Schizophrenia

Depression
- MAO Inhibitor Like Substance

Suicide and Smoking

- Daily smoking → predicts suicidal thoughts or attempt (OR 1.82)
  - adjusted for prior depression, SUD, prior attempts

- Heavy smoking
  - Suicide completions
  - Attempts in adolescents (especially girls)

Breslau et al., 2005; Ostacher et al., 2006; Altamura et al., 2006; Iancu et al., 2006; Cho et al., 2007; Oquendo et al., 2007; Riala et al., 2006; Moriya et al., 2006
An increase of $1 in state excise tax per pack of cigarettes was associated with a 12.4% reduction in risk of suicide.

10 states with weakest TC
10 states with strongest TC

State Excise Tax on Cigarettes
State Smoke-Free Air Policies

Covariates included: per capita state mental health agency expenditures, low income, health insurance, rural

Gruca et al., NTR, 2014

Smoking cessation in outpatient SA treatment

- Part of CTN, included methadone sites
- N=225 smokers
  SC adjunct or treatment-as-usual (TAU)
  9 weeks group counseling plus NP

No negative impact on treatment

No difference in SC vs TAU
- on rates of retention in SA tx
- abstinence from primary substance
- craving for primary substance

Reid et al., 2008

Treating Tobacco is not Disruptive to SUD Treatment

No Reduction in Program Admissions
Total For All Major Program Types OASAS NY
Tobacco-Free Implementation - July 2008
**Smoking Cessation Treatment Does Not Jeopardize Recovery from other Substances**

META ANALYSIS OF 19 RCTs with INDIVIDUALS IN CURRENT ADDICTION TREATMENT or RECOVERY

- SMOKING CESSATION INTERVENTIONS PROVIDED DURING ADDICTIONS TREATMENT WERE ASSOCIATED WITH A 25% INCREASED LIKELIHOOD OF LONG-TERM ABSTINENCE FROM ALCOHOL AND ILLICIT DRUGS
- SMOKING CESSATION WORKED WELL INITIALLY BUT WAS DIFFICULT TO SUSTAIN IN THE GROUPS
- IN THE LATER STUDIES WHICH USED NRT’S, SUCCESS WAS INCREASED

PROCHASKA ET AL. JCCP 2004

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**Tobacco Use Disorder is a Behavioral Health Condition in the DSM-5**

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**Activation of the reward pathway by addictive drugs**

Tobacco Dependence is an Axis I Disorder
Nicotine is a Real Drug

Tobacco Use Disorder
Most tobacco users are addicted (2 or more)
- withdrawal
- tolerance
- desire or efforts to cut down/ control use
- great time spent in obtaining/using
- reduced occupational, recreational activities
- use despite problems
- larger amounts consumed than intended
- Craving; strong urges to use

Tobacco Withdrawal
4 or more
Depressed mood
Insomnia
Irritability, frustration or anger
Anxiety
Difficulty concentrating
Restlessness
Increased appetite or weight gain

Source: Di Chiara and Imperato

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Source: Di Chiara and Imperato
NRT and Agitation in Smokers With Schizophrenia:
• 40 smokers in psych ER
• 21mg patch vs placebo patch
• Usual care for psychosis
• Agitated Behavior was 33% less at 4 hours and 23% lower at 24 hours for NRT group
• Better response in lower dependence
• Same magnitude of response as antipsychotic studies

Tobacco Use is Still Part of Behavioral Health Culture and We’re not Doing Enough

and Treatment Works
Only 1 in 4 Mental Health Treatment Facilities Offers Quit Smoking Services


Less than Half of US Substance Abuse Facilities Treat this Substance

41% offer smoking cessation counseling or pharmacotherapy
38% offer individual/group counseling
17% provide quit-smoking medication

Friedmann et al., JSAT 2008

Mental health and chemical dependency counselor Joan Ayala. Joan has a dual diagnosis of mental illness and addiction. During her lifelong battle she has learned coping skills to sustain her and end her addiction and cope with her mental illness.

USA TODAY: December 22, 2014
What to Assess

• **Severity of Tobacco Use Disorder** (Level of Dependence)

• **Motivation to Quit**
  - Financial Implications
  - Medical Consequences
  - Psychiatric Consequences
  - Other Tobacco Use
  - Quitting History

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**Heaviness of Smoking Index**

Measure of Dependence

Number of cigarettes per day (cpd)

AM Time to first cigarette (TTFC)

\[ \leq 30 \text{ minutes} = \text{moderate} \]
\[ \leq 5 \text{ minutes} = \text{severe} \]

Heatherton 1991

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**Smokers with depression smoke more cpd and are more dependent**

![Graph showing the relationship between depression and smoking habits.](source)
80% of Smokers with SMI report smoking within 30 min of awakening

Smokers in Addiction Treatment are Moderately to Severely Addicted to Nicotine

Individuals with schizophrenia highly addicted
Patients with SUD Quit Smoking Successfully

- H/o ETOH Just as likely to succeed in quitting smoking as other smokers
- Usual treatments effective
- Smokers learned skills in recovering from alcohol that helped them quit smoking

Hughes & Kalman, 2006

Behavioral Health Should Take a Lead in Tobacco Treatment

- High prevalence of tobacco use/ patient need
- Tobacco Dependence in DSM-V
- Trained in addictions
- Tobacco interactions with psych meds
- Longer and more treatment sessions
- Experts in counseling
- Relationship to mental symptoms and other addictions

- Undervalue tobacco use as a problem
- Consumers/ families minimize the health risks of tobacco
- Professionals/ systems have been slow to change in addressing tobacco
- Lack the knowledge about effectiveness of treatment
- Lack of advocating for treatment
- Poor reimbursement
- Higher smoking among staff
Electronic (Ecig) Components

- Composed of 3 parts:
  - Cartridges that contain nicotine (flavored)
    - Refillable cartridges with different flavors and nicotine
    - Solution in propylene glycol and glycerin
  - Heating element to vaporize the nicotine solution
  - Rechargeable battery
    - Microprocessor with a sensor that activates the heating element when the EC is puffed
    - LED light

Nicotine intake less than combustible cigarettes

E-cigarette

- Made by Big Tobacco
- Safer than cigarette does not mean safe
- Not regulated in sales or advertising
- Not proven effective for cessation
- Risk of re-normalizing smoking behavior
Past Month Tobacco Use among Youths Aged 12 to 17: 2002-2013

National Survey on Drug Use and Health

Past Month Use of Selected Tobacco Products

Source: University of Michigan, Monitoring the Future Study

This probably isn't the best way to quit smoking
E-joints and e-crackpipes are the new e-cig

Conclusions
• It’s the smoke that kills
• Numerous consequences from tobacco for individuals with mental illness and addictions
• Behavioral health professionals MORE involved in tobacco treatment
• Treat it like a co-occurring disorder
• Program/Systems changes needed to support individuals/treatments

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