

An aerial photograph of Chicago, showing the city skyline in the background with various skyscrapers and Lake Michigan to the right. In the foreground, the University of Chicago campus is visible, featuring numerous buildings with red-tiled roofs and green trees. A yellow banner with black text is overlaid on the image.

# Treatment of Problem Gamblers

Jon E. Grant, JD, MD, MPH  
Professor, University of Chicago

# Disclosure Information

## **Financial** relationships:

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I will discuss off-label and/or investigational use: opiate antagonists and glutamate agents.

Collaborators: Suck Won Kim (UMN) Brian Odlaug (Copenhagen), Samuel Chamberlain (Cambridge), Marc Potenza (Yale), Dan Stein (South Africa)



THE WEIRD WORLD OF

# GAMBLING

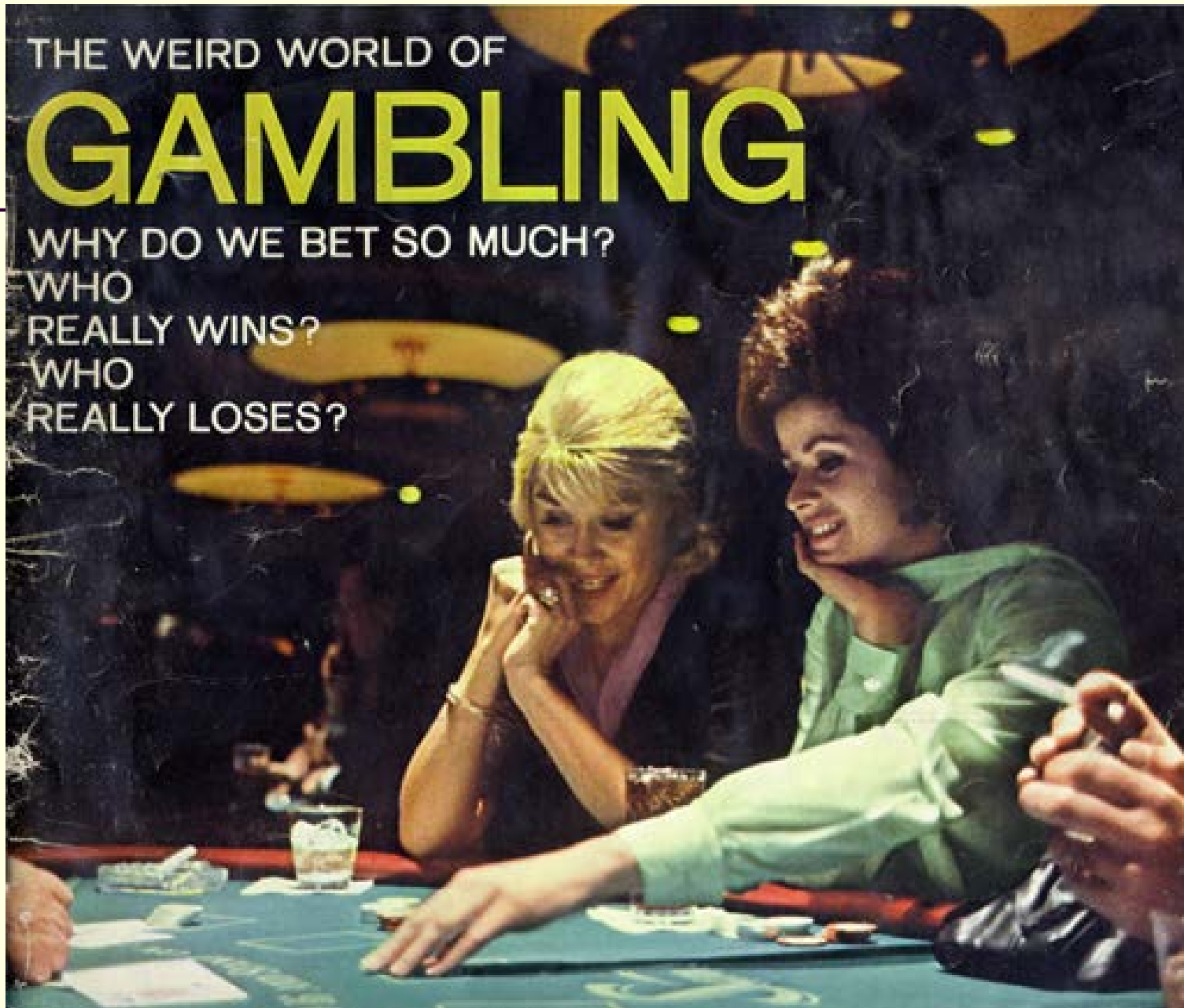
WHY DO WE BET SO MUCH?

WHO

REALLY WINS?

WHO

REALLY LOSES?



Source: *Look Magazine*, March, 1963

# Goals of Treatment??

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- Symptoms
  - Abstinence
  - Reduction
- Quality of Life
- Co-occurring problems
- Reduction in suicide rates
- Family/Interpersonal relations



# Treatment Approaches



"Betcha I recover before you do."

# Gamblers Anonymous

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- 22.4% attended only 1 meeting,
- 15.5% attended only 2 meetings,
- 7.5% earned a 1-year abstinence pin.
- Those who stayed more likely to have initial realistic expectations of GA and a spouse in GamAnon.
- Those who dropped out more likely to endorse “controlled gambling,” and did not identify with severity of problems as other members.

# Psychosocial Treatments

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- Multiple controlled studies
- Cognitive Behavioral Therapy
- Sessions 1 to 16
- Group, Online, In Person

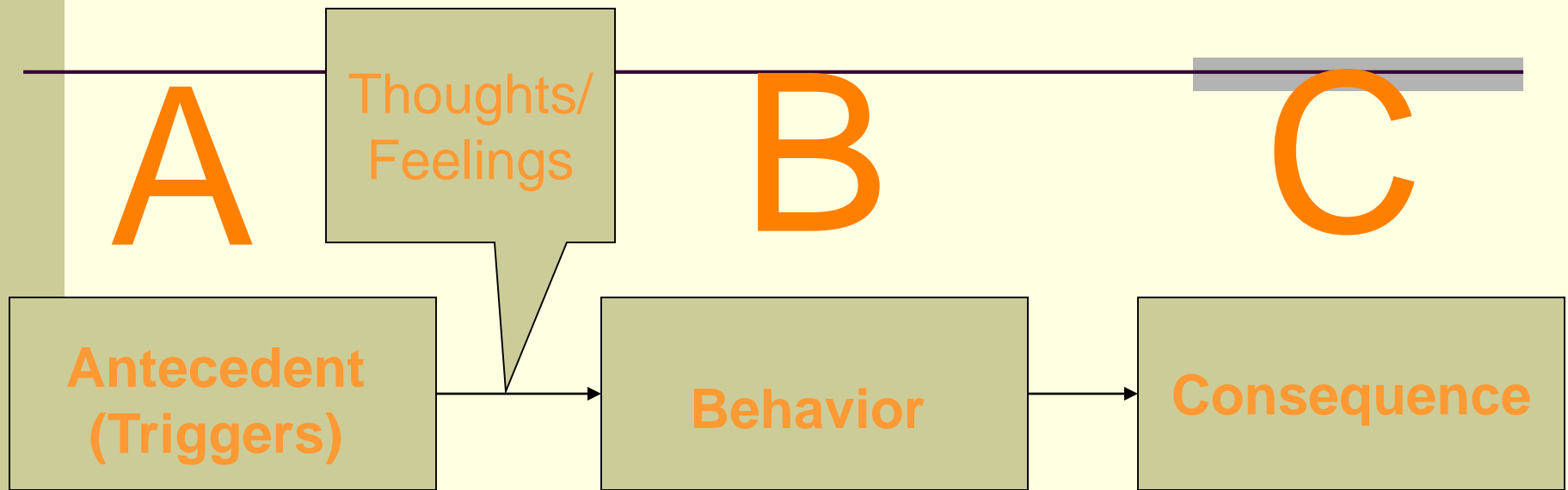


# Cognitive Behavioral Therapy

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- Psychoeducation
- Increased awareness of irrational cognitions, and cognitive restructuring.
- Identification of gambling triggers and the development of non-gambling sources to compete with the reinforcers associated with gambling.

# Functional Analysis



Particular people

Environment

Feelings

e.g., urges,  
argument with  
spouse,  
boredom, anxiety

Gambling/alternate behavior

e.g., I drove by the casino,  
next think I knew it was 2am

Abstinence

e.g., I thought about the effect  
it would have on my family,  
and took a different route  
home

Positive

e.g., I gambled and I  
forgot about that argument  
with my wife

Negative

e.g., the next day, I felt  
like I'm a failure

# Brief Interventions

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- Interventions ranging from a single brief session to 4 sessions
- Self-Help Workbooks
- Designed to introduce treatment, engage patient into treatment and to target at-risk and problem gamblers
- Easy to implement

# Groups

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## Group CBT – 3 studies

- Cognitive restructuring
- Coping skills and identification of high-risk situations.
- Imaginary exposure with response prevention.
- Financial limit setting and activity scheduling of leisure activities.
- Problem-solving training
- Relapse prevention

# Imaginal Exposure

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Client and Therapist develop an imaginal exposure script that includes all the relevant internal and external triggers that relate to your gambling

Urges or cravings can be activated using exposure to triggering events via imaginal exposure exercises.

# Motivational Interviewing

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- A directive, client-centered method for enhancing intrinsic motivation to change by exploring and resolving ambivalence
- Style vs. therapy
- Client centered – listening and reflecting
- Focused on ambivalence
- Focused and goal directed



# Motivation to Quit Gambling

<p>1) <u>Positive</u> aspects of gambling (what are the positive things gambling gives me?)</p>	<p>2) <u>Negative</u> aspects of quitting (what do I lose if I stop gambling?)</p>
<p>3) What are the <u>negative</u> consequences of gambling (current and future?)</p>	<p>4) What are the <u>advantages</u> of quitting gambling (what do I have to gain?)</p>

# Relapse Prevention

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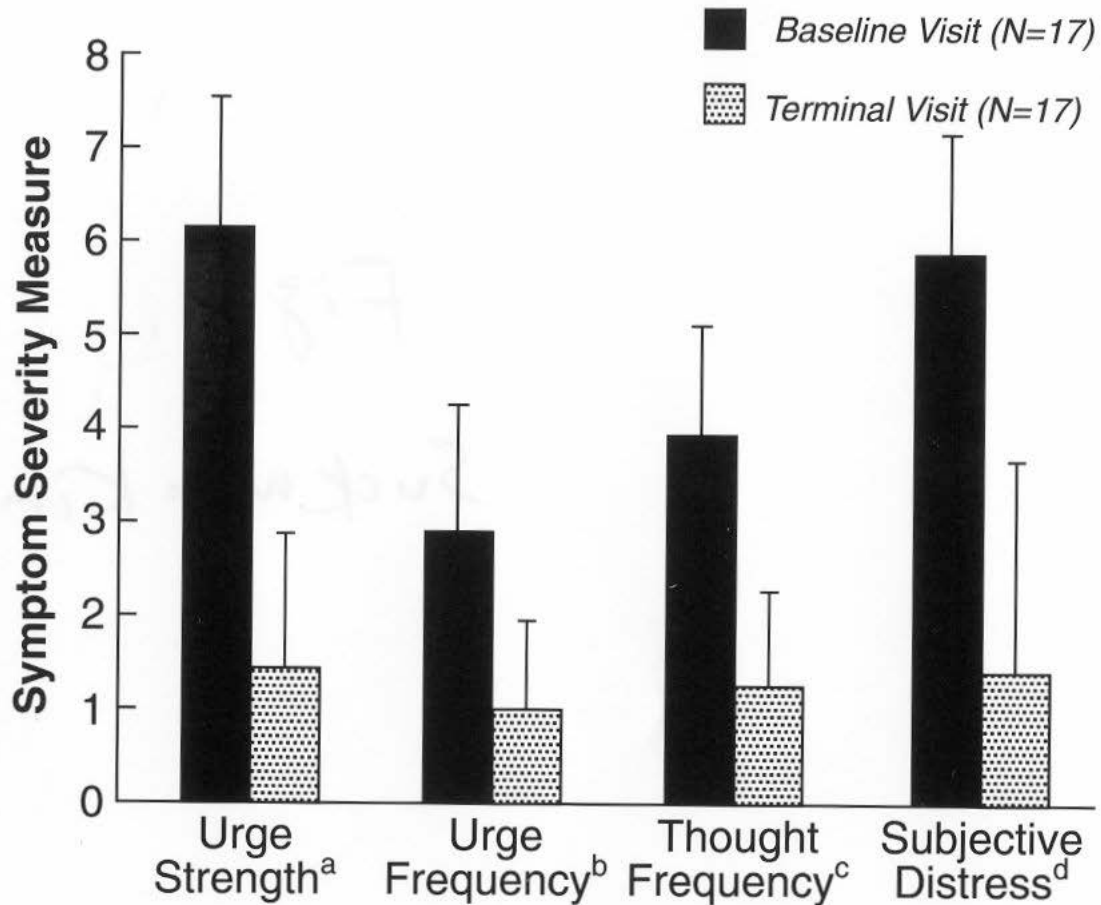
- Variant of cognitive-behavioral therapy; main approach is:
  - Identification of “triggers” to resume use
  - Planning and rehearsal of avoidance
  - Planning and rehearsal of escape
- “Slip” not equal to relapse

# Opioid Antagonists

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- The mu-opioid system:
  - underlies urge regulation through the processing of reward, pleasure and pain, at least in part via modulation of dopamine neurons in mesolimbic pathway through GABA interneurons.

**Figure 1. Baseline and Terminal Visit  
Gambling Symptom Ratings**  
(Carry Forward Paired t-test)



<sup>a</sup> 0=None, 2=Mild, 4=Moderate, 6=Severe, 8=Extreme. Significantly different ( $t=14.28$ ,  $p<0.05$ )\*.

<sup>b</sup> 0=None, 1=Once a day, 3=Three times a day, 5=Five times a day, 6=More than five times a day. Significantly different ( $t=7.29$ ,  $p<0.05$ )\*.

<sup>c</sup> 0=None, 1=Once a day, 3=Three times a day, 5=Five times a day, 6=More than five times a day. Significantly different ( $t=5.25$ ,  $p<0.05$ )\*.

<sup>d</sup> 0=None, 2=Mild, 4=Moderate, 6=Severe, 8=Extreme. Significantly different ( $t=8.68$ ,  $p<0.05$ )\*.

\* Bonferroni corrected

# ***N*-acetylcysteine (NAC)**

- Amino-acid and antioxidant
- Potentially modulates brain glutamate transmission
- Levels of glutamate within the nucleus accumbens mediate reward-seeking behavior
- Lacks significant side effects

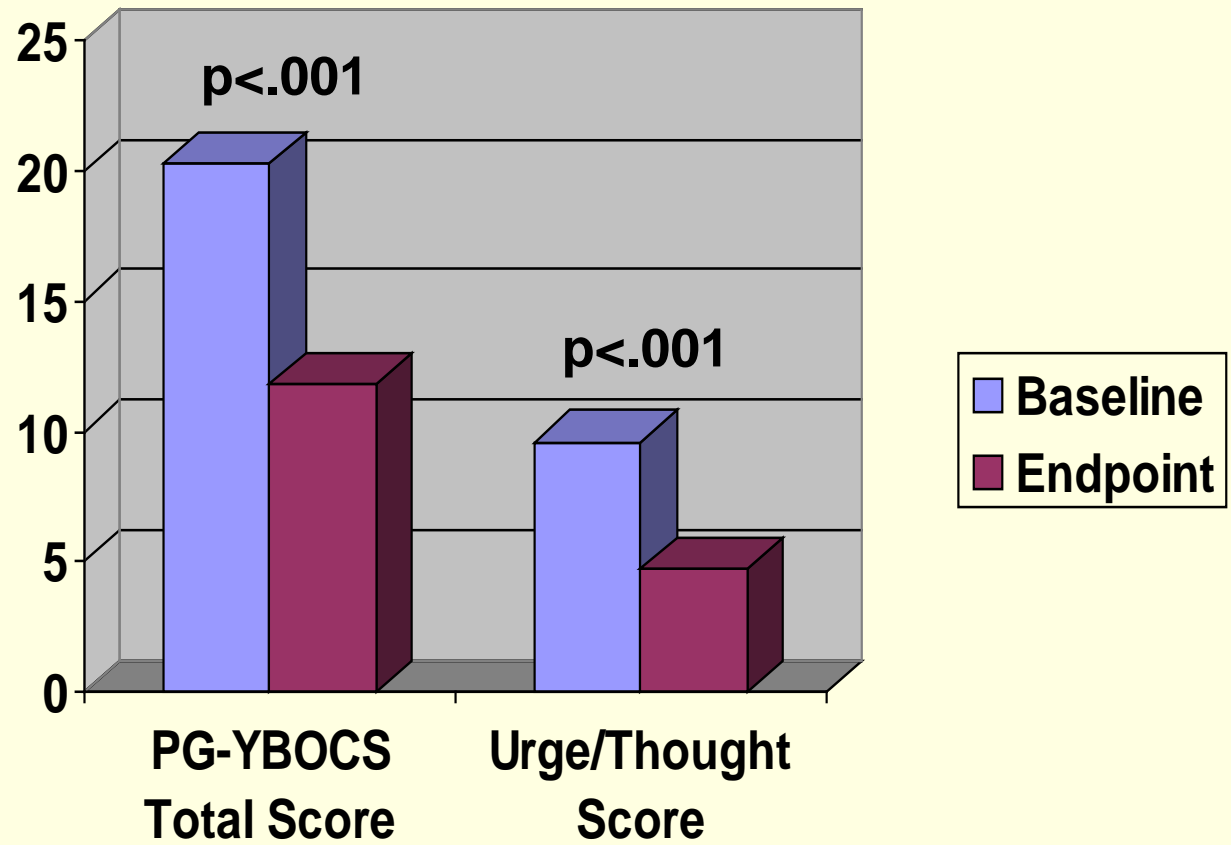
## **Open-Label study of NAC in Gambling Disorder**

- n=27 subjects, mean age 50.8 years, 44.4% female
- Dose titration from 600mg/d to 1800mg/d
- Required to have moderate cravings to gamble

# Open-Label Study of NAC in GD

## RESULTS

- YBOCS: Scores decreased 41.9% from baseline to endpoint



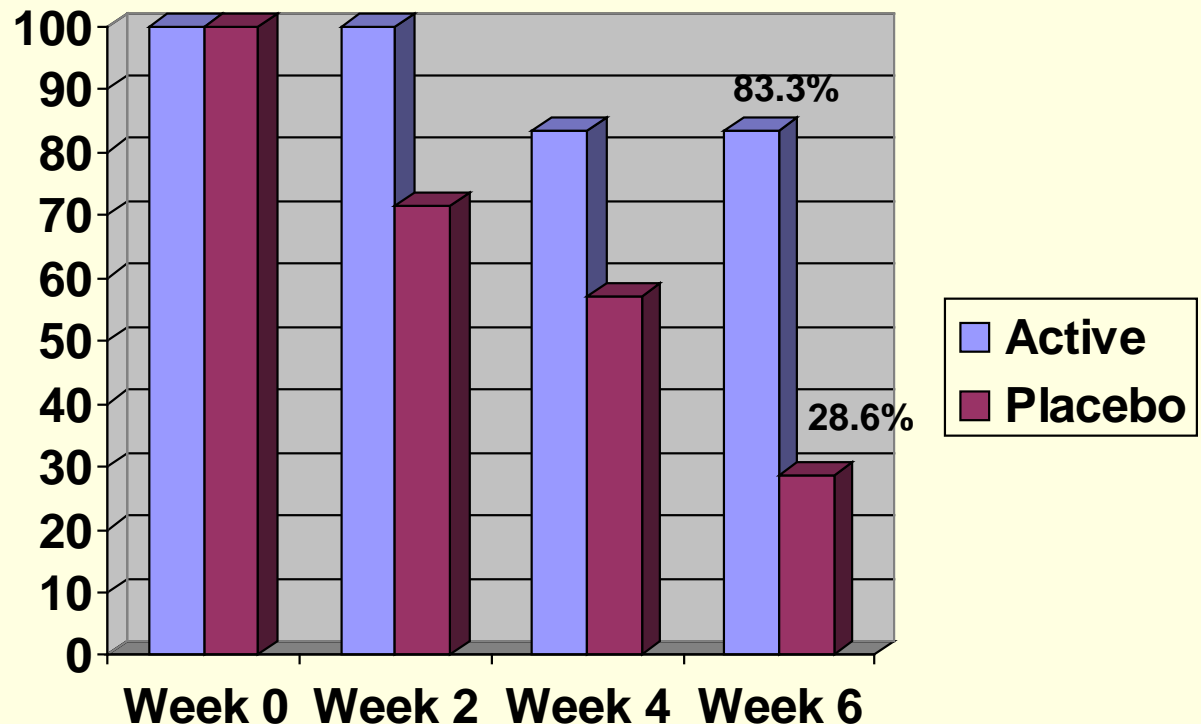


# Open-Label Study of NAC in GD

## RESULTS

- N=16 (59.3%) met responder criteria
- Mean effective dose: 1476.9 ( $\pm 311.3$ ) mg/d

Percentage of subjects meeting responder criteria each week of the double-blind discontinuation phase



# Outcomes

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- Drop-out rates are high for all treatments (>50%)
- Relapse rates after treatment are high (up to 75%)

# Predictors

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- Those who had relapsed or dropped out showed higher Impulsivity.
- Reduction of cognitive distortions and better decision-making - best predictors of recovery, regardless of the type of treatment received.
- Smoking status



SIPRESS

# Problems with Treatment Research

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- Short term studies
- Homogeneous groups/lack of diversity
- Lack of co-occurring disorders
- Evidence of subtyping not yet being used

# Cognitive Behavior Therapy

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- How many people use a manual and do it properly?
- Does it work for anyone but the person who wrote the manual?



# Other Issues

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- What do we do about the families?
- How does quality of life improve?

# Conclusions

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- Disordered gambling is treatable.
- Data suggest that CBT and medications are most effective treatments.
- Moving from research settings to clinical settings is the challenge

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# QUESTIONS?

