New Advances in the Treatment of Problem and Pathological Gambling

Nancy Petry, Ph.D.
University of Connecticut Health Center
Farmington, CT

Supported by NIH grants: RO1-MH60417, RO1-MH60471, R01-DA13444, RO1-DA016855, RO1-DA014613, RO1-DA105083, RO1-MH60417, P60-MH12501, P50-DA09241, P60-AI03510 and the Connecticut Medical Investigator Program

States with legalized gambling in 1963

Overview

A. Definitions and prevalence rates
B. Consequences and comorbidities
C. Treatments for gambling
   - Cognitive-behavioral therapy
   - Brief interventions

A.) Definitions

Gambling is defined as

“placing money on some event that has a possibility of resulting in some advantage.”

States with legalized gambling in 1964

States with legalized gambling in 2000

2008 Midwest Conference on Problem Gambling and Substance Abuse
Types of gambling
Cards, dice, animal races, jai alia, slot machines, roulette, bingo, video poker, sporting events, playing sports, lottery tickets, scratch tickets, high risk stocks or commodities, internet gambling.

Types of gamblers
- Level 1 – social or recreational gambling
- Level 2 – problem, at risk, in transition gambling
- Level 3 – DSM-IV diagnosis of pathological gambling (compulsive gambling)

DSM-IV Criteria for Pathological Gambling
1. Preoccupied with gambling
2. Need to gamble with increasing amounts of money
3. Repeated unsuccessful efforts to cut down or stop gambling
4. Restless or irritable when attempting to cut down
5. Gambles to escape problems or relieve negative mood
6. "Chases" lost money. Returns to gambling to get even
7. Lies to others to conceal extent of gambling
8. Commits illegal acts to finance gambling
9. Jeopardizes or loses important relationship or job due to gambling
10. Relies on others to relieve desperate financial situations caused by gambling

Prevalence rates in general population surveys

Prevalence rates in general population studies

2008 Midwest Conference on Problem Gambling and Substance Abuse
International studies

Gambling in South East Asian refugees (n=96) in CT

- Over half reported gambling in past 2 weeks.
- 42% reported wagering more than $500 in past 2 months.

Petry, Armentano, Kouch, Moya, Norington, & Smith, 2003

Prevalence rates in adolescents

College students at UCONN

Internet gambling in CT college students (n=1356) and its association with pathological gambling status

B.) Consequences and Comorbidities

2008 Midwest Conference on Problem Gambling and Substance Abuse
Medical problems

- insomnia
- high blood pressure
- cardiac disorders
- intestinal disorders
- poorer general health than non-problem gamblers

Pasternak & Fleming (1999)

Patients treated at UCONN and inner city medical clinics

- Social: 43.0%
- Problem: 15.4%
- Pathological: 10.5%

Pasternak & Fleming (1999)

Physical and medical problems in adults recruited from general medical clinics (n=1,405)

- Short Form 12
  - Mean scores indicate poorer functioning:
    - Physical Fx
    - Role Phys.
    - Bodily Pain
    - General Health

Morasco, von Eigem, & Petry, 2006

Financial and legal consequences

- Financial
  - $38,000-$113,000 average debt
  - 30% file for bankruptcy

- Legal
  - 60% commit illegal acts

Financial and legal consequences

Substance abuse and gambling

Prevalence of pathological gambling in treatment-seeking substance abusers

2008 Midwest Conference on Problem Gambling and Substance Abuse
Prevalence of alcohol abuse/dependence in treatment-seeking gamblers

Psychiatric comorbidity

- Substance use disorders
- Attention deficit disorder
- Anxiety
- Depression
- Suicide
  - Contemplation: 48-70%
  - Attempt: 13-20%
- Almost all data derived from treatment-seeking gamblers rather than community samples.

National Epidemiological Survey on Alcohol and Related Conditions (NESARC)

- Face-to-face personal interviews with 43,093 respondents
- 18 years and older in the civilian noninstitutional population residing in households and group quarters
- 81% response rate
- African Americans, Hispanics, and young adults (ages 18-24) were oversampled.
- Conducted in 2001-2002
- Supported by NIAAA
- Included a module on pathological gambling (Petry, Stinson, & Grant, 2005).

Comorbidity of psychiatric disorders with pathological gambling

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Odds Ratio (95% CI)</th>
<th>Prevalence with disorder (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol*</td>
<td>6.0 (3.8-9.7)</td>
<td>73.22</td>
</tr>
<tr>
<td>Drug*</td>
<td>4.4 (2.9-6.6)</td>
<td>38.10</td>
</tr>
<tr>
<td>Nicotine*</td>
<td>6.7 (4.6-9.9)</td>
<td>60.37</td>
</tr>
<tr>
<td>Major depression*</td>
<td>3.3 (2.3-4.9)</td>
<td>36.99</td>
</tr>
<tr>
<td>Dysphoria*</td>
<td>3.3 (1.9-5.6)</td>
<td>13.20</td>
</tr>
<tr>
<td>Mania*</td>
<td>8.6 (4.7-13.7)</td>
<td>22.80</td>
</tr>
<tr>
<td>Panic disorder w/ agoraphobia*</td>
<td>5.2 (2.6-10.5)</td>
<td>5.99</td>
</tr>
<tr>
<td>Social phobia*</td>
<td>2.2 (1.2-4.1)</td>
<td>10.55</td>
</tr>
<tr>
<td>Specific phobia*</td>
<td>3.5 (2.2-5.5)</td>
<td>23.54</td>
</tr>
<tr>
<td>Generalized anxiety*</td>
<td>3.1 (1.8-5.3)</td>
<td>11.15</td>
</tr>
<tr>
<td>Any personality disorder*</td>
<td>8.3 (5.6-12.3)</td>
<td>60.82</td>
</tr>
</tbody>
</table>


C.) Treatments for gambling

1.) Pharmacotherapy
2.) Self-help
3.) Inpatient
4.) Marital/family
5.) Psychoanalytic
6.) Cognitive-behavioral
7.) Brief treatments

Treatments applied
Gamblers Anonymous

- Over 1000 chapters in US
- Social support
- Financial advice, pressure relief

Overall attrition rates are high, abstinence is low (Stewart & Brown, 1988).

Cognitive-behavioral therapy

1.) Triggers
2.) Functional analysis
3.) Pleasant activities
4.) Self-management
5.) Coping with urges
6.) Assertiveness training/refusal skills
7.) Correcting irrational thinking
8.) Preparing for emergencies

Treatment study

Pathological gamblers randomly assigned to:
1.) Referral to GA
2.) Referral to GA plus CBT self-help manual
3.) Referral to GA plus professionally-delivered CBT

Demographics

<table>
<thead>
<tr>
<th></th>
<th>GA Ref</th>
<th>Manual</th>
<th>Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>63</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>Male</td>
<td>50.0%</td>
<td>57.6%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>81.3%</td>
<td>84.7%</td>
<td>84.7%</td>
</tr>
<tr>
<td>Age</td>
<td>44.5</td>
<td>44.2</td>
<td>46.0</td>
</tr>
<tr>
<td>Married</td>
<td>39.1%</td>
<td>36.5%</td>
<td>42.4%</td>
</tr>
<tr>
<td>Income</td>
<td>$42,500</td>
<td>$43,000</td>
<td>$46,000</td>
</tr>
<tr>
<td>Prev. Subs.</td>
<td>31.7%</td>
<td>29.8%</td>
<td>21.2%</td>
</tr>
<tr>
<td>Abuse TX</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results

Addiction Severity Index Gambling score

Days Gambled

Median $ Gambled

2008 Midwest Conference on Problem Gambling and Substance Abuse
Long-term follow-ups

Other symptom reduction

Compliance with treatment

Predictors of abstinence in those assigned to a CB condition

How does the CBT work?

1.) Identify triggers

- Places where you are likely to gamble:
- People with whom you are likely to gamble:
- Times or days when you are likely to gamble:
- Activities that make it likely you’ll gamble:
- Emotions or feelings that make it likely you’ll gamble:

2008 Midwest Conference on Problem Gambling and Substance Abuse
Identify when you *don’t* gamble.

- Places where you don’t gamble:
- People with whom you don’t gamble:
- Times or days when you don’t gamble:
- Activities that you do when you aren’t gambling:
- Emotions or feelings that don’t make you feel like gambling:

2.) Consequences

- What are the positive effects from gambling?
  - get away
  - relaxing
  - exciting
  - win $

- What are the negative effects from gambling?
  - lose $
  - more arguing
  - depressed
  - lose self respect

Trigger

Gambling

Functional analysis

<table>
<thead>
<tr>
<th>Trigger</th>
<th>Thoughts &amp; Behavior</th>
<th>+Effects</th>
<th>-Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>creditors</td>
<td>worried/angry</td>
<td>casino</td>
<td>felt lucky</td>
</tr>
<tr>
<td>2. weekend</td>
<td>felt bored</td>
<td>races</td>
<td>excited</td>
</tr>
</tbody>
</table>

3.) Increase other activities

- Pleasant events checklist.
- List favorite activities: spontaneous and planned.
- Identify people and times to try at least one activity in the upcoming week.
- Substitute

<table>
<thead>
<tr>
<th>High-risk time</th>
<th>Other activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.)_____________</td>
<td>1.)_____________</td>
</tr>
<tr>
<td>2.)_____________</td>
<td>2.)_____________</td>
</tr>
<tr>
<td>3.)_____________</td>
<td>3.)_____________</td>
</tr>
</tbody>
</table>

7.) Changing irrational thinking

What are the odds of winning a million dollars?

Overestimate odds of winning

<table>
<thead>
<tr>
<th>The odds of:</th>
<th>The odds of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winning $1 million</td>
<td>1 in 13,000,000</td>
</tr>
<tr>
<td>Killed in car accident</td>
<td>1 in 53,000</td>
</tr>
<tr>
<td>Choking to death</td>
<td>1 in 68,000</td>
</tr>
<tr>
<td>Struck by lightning</td>
<td>1 in 2,000,000</td>
</tr>
</tbody>
</table>
New study

Everyone meets with a therapist once weekly for 8 weeks
- Psychoeducation plus case management
- Cognitive-behavioral therapy
- Cognitive-behavioral therapy plus contingency management

Longer term (2 year) follow-ups included.

Preliminary adherence measures

Therapy attendance
GA Attendance
Homework exercises

Mean sessions
Mean meetings
% Completed

Brief interventions

Despite the large numbers and adverse consequences of disordered gambling, fewer than 8% of pathological gamblers ever seek or receive services (National Research Council, 1999).

Virtually no problem gamblers seek or receive services (NGISC, 1999).

What can we do?
- Expand treatment services.
- Expand outreach.
- Determine reasons why people don’t seek services.
- Tailor interventions to fit the needs of the patients who would be most likely to benefit from them.

Brief interventions for reducing heavy alcohol use.
- Simple advice
- Motivational enhancement therapy
- 1-4 sessions

2008 Midwest Conference on Problem Gambling and Substance Abuse
Brief treatments for problem gamblers

Screening efforts
- Substance abusers
- Medical/dental patients
- Older adults (senior centers)
- Gambling establishment patrons

Random assignment
1. Evaluation plus no-treatment control
2. Evaluation plus 5 minutes of brief advice
3. Evaluation plus 1 session of Motivational Enhancement Therapy
4. Evaluation plus 4 sessions of therapy (MET+CBT)

Demographics

<table>
<thead>
<tr>
<th></th>
<th>No tx</th>
<th>10 min Brief Advice</th>
<th>1 session of MET</th>
<th>4 sessions MET+CBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>48</td>
<td>37</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>31%</td>
<td>51%</td>
<td>30%</td>
<td>45%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>61%</td>
<td>66%</td>
<td>65%</td>
<td>60%</td>
</tr>
<tr>
<td>Age</td>
<td>41</td>
<td>44</td>
<td>45</td>
<td>44</td>
</tr>
<tr>
<td>Income</td>
<td>$25,871</td>
<td>$23,583</td>
<td>$27,277</td>
<td>$31,552</td>
</tr>
<tr>
<td>Education</td>
<td>12.5</td>
<td>13.5</td>
<td>13.8</td>
<td>13.2</td>
</tr>
</tbody>
</table>

Addiction Severity Index

Gambling scores

Results

Dollars Gambled

Addiction Severity Index

Gambling scores

Month

Days

Proportions improved by month 9

2008 Midwest Conference on Problem Gambling and Substance Abuse
Predicting recovered/substantially improved at month 9

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Wald</th>
<th>p value</th>
<th>Odds ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>-36</td>
<td>.80</td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.01</td>
<td>.36</td>
<td>.55</td>
<td></td>
</tr>
<tr>
<td>SOGS</td>
<td>-.17</td>
<td>10.5</td>
<td>p&lt;.001</td>
<td>.84 (.76-.93)</td>
</tr>
<tr>
<td>ASI-med</td>
<td>-1.28</td>
<td>5.11</td>
<td>p&lt;.05</td>
<td>.28 (.09-.84)</td>
</tr>
<tr>
<td>ASI-alc</td>
<td>1.61</td>
<td>0.97</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>ASI-drug</td>
<td>-3.07</td>
<td>.83</td>
<td>.36</td>
<td></td>
</tr>
<tr>
<td>BSI</td>
<td>-.02</td>
<td>0.00</td>
<td>.96</td>
<td></td>
</tr>
<tr>
<td>Brief Advice</td>
<td>1.81</td>
<td>8.42</td>
<td>p&lt;.01</td>
<td>6.08 (1.8-20.6)</td>
</tr>
<tr>
<td>MET</td>
<td>.86</td>
<td>2.85</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>MET/CBT</td>
<td>.78</td>
<td>1.96</td>
<td>.16</td>
<td></td>
</tr>
</tbody>
</table>

How does the brief advice work?

Continuum of gambling

Continuum of gambling

Your level of gambling puts you in this group.

Point out their specific risk factors for problem gambling.

- Substance abuse
- Family members
- Psychiatric problems
- Frequency and quantity of gambling
- Superstitious thinking
- Major life changes

Brief advice

- Limit amount of money spent gambling.
- Cash only, limited access, leave ATM/credit cards at home.
- Limit amount of time and days gambling.
- Not daily, commitments with others
- Don’t expect to win.
- Spend time on other recreational activities.
Summary

- Problem and pathological gambling is fairly common and associated with adverse family, social, and medical consequences.
- Cognitive-behavioral therapy is efficacious in reducing gambling problems in pathological gamblers.
- Problem gamblers are unlikely to seek treatment, so direct screening and intervention strategies seem useful.
- Very brief interventions appear effective in reducing problem gambling.

Thanks to:

Yola Ammerman, M.A.
Scarlett Anicette, M.A.
Anne Diengah, M.A.
Heather Gay, M.S.W.
Ron Kadden, Ph.D.
David Ledgerwood, Ph.D.
Suzanne McColl, M.A.
Cheryl Molina, M.A.
Bret Minauer, Ph.D.
Betsy Parker, M.A.
Robert Pietrzak, M.P.H.
Nicole Reilly, B.A.
Karen Streihsa, Ph.D.
Julie Utsa, B.A.
Jeremiah Weinstock, Ph.D.

Gambling treatment manuals and handouts are available in:

http://books.apa.org/books.cfm?id=4316646