Gambling Problems Among Military Veterans: Screening Study in Primary Care Behavioral Health

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Learning Objectives

- Identify one possible reason for the higher rate of Gambling Disorder among military veterans.
- Review co-occurring mental health disorders associated with Gambling Disorder among military veterans.
- Identify one possible barrier to military veterans getting help for their gambling problem.
- Discuss screening and treatment approaches for treating veterans with Gambling disorder.
- Identify one finding from the research studies.

Show Me the Money: Common Types of Gambling

- Casino-type table games
- Slot machines
- **Scratch tickets***
- Card games
- **Lotteries***
- Dice games
- Wagering
- Sports betting
- Bingo
- Roulette

Gambling Disorder Prevalence in US Adults

- **Up to 90%** of U.S. adults gamble
- **Lifetime problem gambling:**
  - 2-5% of U.S. adults
  - **10% of U.S. military Veterans**
- **Lifetime gambling disorder:**
  - 1-2% of US adults
  - **3% of U.S. military Veterans**
- **About 1/3** of problem gamblers experience natural remission (Slutske et al., 2012).

Gambling among Women (vs. Men)

- Prevalence:
  - Problem Gambling: 0.7% women vs. 2.7% men
  - At-Risk Gambling: 5.6% women vs. 9.6% men

- Development (telescoping for women):
  - Start later
  - Progress faster

- Clinical Characteristics:
  - Psychiatric & Substance Use
  - Sensation-seeking for men

Risk Factors for Problem Gambling

- History of an early big win (leading to false expectation of future wins)
- Cognitive distortions about the odds of winning (i.e., luck)
- Recent loss or change (e.g., divorce, job loss, retirement, bereavement)
- Self-esteem is tied to gambling wins or losses
- History of risk taking or impulsivity
- History of financial problems
- Depression and anxiety
- Trauma history (PTSD)
- Family history of gambling
- Substance use

Seeking Help for Problem Gambling

- Public funding for substance abuse treatment is **281 times** greater than for problem gambling services ($17 billion vs. $60.6 million) (Marotta, 2013).

- **~ 11% of U.S. adults** with gambling disorder seek professional help in their lifetime (Lister et al., 2015).

- A study of Veterans with gambling disorder found that **less than 5%** had previously sought treatment (Shirk et al., 2018).

Gambling among Active Duty: Slot Machines

According to 2017 US Government Accountability Office (GAO) :

- July 2016: 3141 slot machines on overseas US military bases (doubled since 2001 report)
- 2011-2015: Slots generated $539 million in revenue, averaging $108 million per year.
- Low rates of screening for gambling disorder among active duty servicemembers is likely leading to underreporting and undiagnosed individuals with gambling problems.

GAO Report Findings

US Government Accountability Office (GAO) report on Military Personnel: DOD and Coast Guard Need to Screen for Gambling Disorder Addiction and Update Guidance

- Less than 0.03% of active-duty servicemembers were diagnosed with GD between 2011-2015.
- DoD and Coast Guard do not actively screen active-duty service members for gambling disorder, reflecting missed opportunities for early detection and treatment.
- Recommendations for action:
  - Actively screening for gambling disorder during routine medical appointments
  - Include gambling disorder in treatment manuals in all military service branches
  - Need to develop accurate screening tools

- Section 733 of Public Law 115-232 H.R.5515 John S. McCain National Defense Authorization Act for Fiscal Year 2019 requires the Department of Defense to "incorporate medical screening questions specific to gambling disorder into the annual Periodic Health Assessments of members of the Armed Forces."

Problem Gambling Among U.S. Veterans

- A national survey of Veterans found that 2.2% screened positive for at-risk or pathological gambling (Stefanovics, Potenza, & Pietrzak, 2017).
- 4.2% of Iraq/Afghanistan Veterans exhibit at-risk/probable pathological gambling (Whiting et al., 2016).
- 10.7% of mental health treatment-seeking Veterans reported a lifetime history of gambling disorder (Westermeyer et al., 2013).
- **40% of Veteran gamblers seeking treatment reported a previous suicide attempt** (Kausch, 2003).
- Among Veteran problem gamblers seeking treatment, high rates of alcohol (77%), cocaine (43%), opioids (23%), cannabis use disorders (16%), and **lifetime suicidal ideation (15%)** (Shirk, Kelly, Kraus et al., 2018).
- Veterans with gambling disorder and pain disorder were **1.9 times more likely to attempt suicide** compared to Veterans with pain disorder alone (Ronzitti, Kraus et al., 2019).

Research Studies

Study 1: Screening for Gambling Disorder in Primary Care

- Assessed for gambling disorder among Veterans seeking mental health services in Primary Care Behavioral Health at the Bedford VAMC, Bedford, MA (funded by the Massachusetts Gaming Commission).
- Used the Brief Biosocial Gambling Screen (Gebauer, LaBrie & Shaffer, 2010) to assess for problem gambling and used the DSM-5 criteria for diagnosing gambling disorder.
- Gambling behaviors were assessed during a routine, one-hour intake appointment for all new Veteran patients seeking mental health services in primary care.
  - **Goal**: Determine rates of gambling disorder among VA patients seeking mental health services in primary care.

Study Participants

- 260 Veterans were screened for GD between November 1, 2017 and September 15, 2018.
- Mostly seen in primary care for depression and anxiety.
- 85 (32.7%) reported gambling within the past 12 months.
- Most common gambling behaviors: traditional lottery (25%); instant lottery (scratch tickets) (31%); and playing cards (10%) (Table 1).
- No significant differences between recreational and non-recreational Veteran gamblers on demographics, medical, or mental health comorbidities (Tables 2 and 3).

Table 1. Gambling Behavior among Recreational Gamblers	
Gambling Type:	N (%)
Traditional lottery	21 (25.3%)
Instant lottery (scratch tickets)	26 (31.3%)
Card gambling	8 (9.6%)
Slot machines	3 (3.6%)
Keno	4 (4.8%)
Casino	7 (8.4%)
Horse races	1 (1.2%)
Sports betting	1 (1.2%)
Online	2 (2.4%)
Unknown	10 (12.1%)
Note. Values based upon available data. N=54 due to missing data	

Table 2. Comparison of Demographics: Non-gamblers vs. Gamblers			
Demographics:		Non-gamblers (n=175) N (%) / M (SD)	Gamblers (n=85) N (%) / M (SD)
Age		52.4 (18.3)	52.9 (16.8)
Gender	Female	22 (12.6%)	7 (8.2%)
	Male	153 (87.4%)	78 (91.8%)
Race	White	150 (85.7%)	70 (82.4%)
	Black	6 (3.43%)	5 (5.9%)
	Other	19 (10.9%)	10 (11.8%)
Employment Status	Currently Employed Retired	84 (48.6%) 53 (30.6%)	50 (58.8%) 19 (22.4%)
	Unemployed	22 (12.7%)	12 (14.1%)
Marital Status	Married	96 (55.2%)	40 (47.1%)
	Formerly Married	3 (1.7%)	2 (2.4%)
	Widowed	1 (0.6%)	4 (4.7%)
	Never Married	74 (42.5%)	39 (45.9%)

Table 2. Comparison of Demographics: Non-gamblers vs. Gamblers

		Non-gamblers	Gamblers
Homeless	Current	4 (2.3%)	1 (1.2%)
	Life-time	10 (5.8%)	3 (3.5%)
Combat Veteran	Yes	59 (33.9%)	28 (32.9%)
Service Era	Korean	4 (2.3%)	2 (2.4%)
	Post-Korean	5 (2.9%)	1 (1.2%)
	Vietnam	58 (33.1%)	29 (34.1%)
	Post-Vietnam	17 (9.7%)	10 (11.8%)
	Persian Gulf	90 (51.7%)	43 (50.6%)

Note: Values based upon available data.

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers		
Diagnosis:	Non-gamblers (n=175) N (%) / M (SD)	Gamblers (n=85) N (%) / M (SD)
Major Depression	70 (40.2%)	31 (36.5%)
Mood Disorder	2 (1.1%)	1 (1.2%)
Generalized Anxiety Disorder	43 (24.7%)	31 (36.5%)
Panic Disorder	2 (1.2%)	0 (0.0%)
Bipolar Disorder	1 (0.6%)	2 (2.4%)
Post-Traumatic Stress Disorder	59 (33.7%)	22 (25.9%)
Adjustment Disorder	8 (4.6%)	3 (3.5%)
Schizophrenia	1 (0.6%)	0 (0.0%)
Attention Deficit Hyperactivity Disorder	7 (4.0%)	1 (1.2%)

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers

	Non-gamblers	Gamblers
Military Sexual Trauma	12 (7.1%)	3 (3.5%)
Suicide Ideation:		
Thoughts	19 (10.9%)	15 (17.7%)
Plan	3 (1.7%)	1 (1.2%)
Insomnia	8 (4.6%)	5 (5.9%)
Traumatic Brain Injury	11 (6.3%)	2 (2.4%)
Chronic Pain	1 (0.6%)	2 (2.4%)

Note. Values based upon available data.

Table 3. Comparison of Psychiatric, Medical, and Substance Use Diagnosis: Non-gamblers vs. Gamblers		
Diagnosis:	Non-gamblers (n=132) N (%) / M (SD)	Gamblers (n=63) N (%) / M (SD)
Sexually Transmitted Disease	5 (2.9%)	3 (3.5%)
Polysubstance	0 (0.0%)	1 (1.2%)
Nicotine Dependence	1 (0.6%)	2 (2.4%)
Alcohol Use Disorder	9 (5.1%)	8 (9.4%)
Cocaine Abuse	0 (0.0%)	1 (1.2%)
Cannabis Abuse	3 (1.7%)	1 (1.2%)
Stimulant Abuse	1 (0.6%)	0 (0.0%)
Opioid Abuse	1 (0.6%)	1 (1.2%)
Note. Values based upon available data.		

Study Results

- Examined endorsement on the BBGS which would be indicative of at-risk/problem gambling.

- Of the 85 Veterans who gambled, 5 (5.9%) endorsed at least one item on the BBGS; 3 of the 5 were later diagnosed with GD.

Results

- Of the three Veterans diagnosed with GD, all endorsed Item 1 on the BBGS, "*During the past 12 months, have you become restless, irritable, or anxious when trying to stop/cut down on gambling?*"
- Also, they all had a diagnosis of depression and endorsed current symptoms associated with suicidal ideation.

- The prevalence of at-risk/problem gambling for the full sample is **1.9%.** Because so few Veterans endorsed issues with problem gambling on the BBGS, we were unable to examine the sensitivity and specificity of the questionnaire.

Money Spent on Gambling

- Of those who spent $100 (*n*=15) or more a month, 2 endorsed 1 BBGS question, 11 did not endorse any of the 3 BBGS items, and 2 were not screened.

- Of those who did not endorse any of the BBGS items, 3 Veterans reported high amounts of spending per month ($1,000, $1,440, and $2,000).

- Of the two Veterans who were not screened with the BBGS, one reported spending $450 and the other reported spending $1,600 in the past month.

Discussion

- We found 1/3 of Veterans seeking mental health services in primary care reported past-year gambling. This finding is consistent with prior research (Stefanovics et al., 2017).
- Among past-year gamblers in the study, 6% were considered to have at-risk/problem gambling. This finding is consistent with prior research (Toce-Gerstein, Gerstein, & Volberg, 2009, Welte et al, 2015).
- Across all study participants, we found a prevalence estimate for at-risk/problem gambling to be less than 2% which mirrors a recent study that found an estimate of 2.2% in a national study of 3157 US Veterans (Stefanovics et al., 2017).

Study 2: Assessing Gambling in a National Sample of US Veterans

- In Fall 2018, we surveyed 1,019 US military Veterans. This study was funded by US Department of Veterans Affairs.
- We assessed for gambling behaviors and other mental health issues, including whether they were enrolled in VA health care services or had knowledge of VA health care services.
- Of the sample, 551 (54.1%) reported they did not gamble in past 12 months.
- 467 (45.9%) endorsed past-year gambling behavior:
  - 89.9% (n=420) were considered recreational gamblers (denied any problems).
  - 4.6% (n=47) reported at least one problem with gambling on the Brief Biosocial Gambling Screener (BBGS) – at-risk/problem gamblers (ARPG).

Study 2: Recreational Gamblers vs. At-risk Problem Gamblers

	Recreational gamblers (N=420)	At-risk/problem gamblers (N=47)
Gambling Type		
Card games	6.0%	9.0%
Horses/dogs	1.3%	4.4%
Sports betting	9.7%	11.3%
Slots or poker machines	29.8%	35.5%
Lotto	42.4%	28.1%
Bingo	1.6%	2.1%
Scratch ticket/pull tabs	9.1%	5.7%
Internet gambling	1.9%	0%
Money spent typical month		
Under $50	65.5%	27.5%
Under $100	17.3%	12.8%
$250 or more	10%	45%

	Total sample (N= 1,019)	Non-gambler (n=551)	Recreational Gambler (n=420)	At-Risk Problem Gambling (n=47)	Difference between groups F or χ^2	Partial Eta Square / Cramer's V
Served In Combat Zone	476 (46.7%)	275 (49.8%)	175 (41.7%)	26 (**55.3%**)	7.8*	0.09
Discharge Status						
Honorable/General	968 (95%)	518 (93.8%)	410 (97.6%)	40 (**85.1%**)	17.3**	0.13
Ever Received VA Healthcare	478 (47.0%)	266 (48.3%)	179 (42.6%)	33 (**70.2%**)	13.8**	0.12
Lifetime Thoughts Of Suicide	278 (27.3%)	155 (28.1%)	102 (24.3%)	**21 (44.7%)**	9.3*	0.10
Past 2-week Suicidal Ideation	160 (15.7%)	97 (17.6%)	46 (11.0%)	**17 (35.4%)**	22.8**	0.15
Past 2-week Thoughts Of Self-harm	93 (9.1%)	59 (10.7%)	19 (4.5%)	**15 (31.9%)**	41.8**	0.20
Lifetime Suicide Attempt	80 (7.9%)	46 (8.7%)	22 (5.3%)	**10 (20.8%)**	15.6**	0.12
Any Homelessness History	99 (13.1%)	64 (11.6%)	22 (5.2%)	13 (**27.1%**)	28.4**	0.17
Positive Screen						
Generalized Anxiety	155 (15.2%)	88 (15.9%)	47 (11.2%)	20 (**46.2%**)	32.7**	0.18
Major Depression	151 (14.8%)	91 (16.5%)	45 (10.7%)	15 (**31.9%**)	17.7**	0.13
Posttraumatic Stress Dx	164 (16.1%)	88 (15.9%)	53 (12.6%)	23 (**49.0%**)	41.4**	0.20

	Total sample (N= 1,019)	Non-gambler (n=551)	Recreational Gambler (n=420)	At-Risk Problem Gambling (n=47)	Difference between groups F or χ^2	Partial Eta Square / Cramer's V
Receipt Of Social Support Score	2.7 (1.1)	2.6 (1.2) $_{a\ b}$	2.9 (1.1) $_{a\ c}$	2.3 (1.1) $_{b\ c}$	9.51**	0.02
Provision Of Social Support Score	2.8 (1.0)	2.7 (1.0) $_{a}$	2.9 (1.0) $_{a}$	2.6 (0.9)	4.61*	0.01
Brief Inventory Of Psychosocial Functioning Score	2.1 (1.6)	2.3 (1.7) $_{a\ b}$	1.8 (1.5) $_{a\ c}$	2.9 (1.6) $_{b\ c}$	11.45**	0.03
Stigma About Mental Healthcare	1.2 (1.9)	1.1 (1.9) $_{a}$	1.1 (1.8) $_{b}$	3.4 (2.5) $_{a\ b}$	29.3**	0.07
Barriers To Mental Healthcare	1.6 (1.5)	1.6 (1.5) $_{a}$	1.5 (1.5) $_{b}$	2.3 (1.6) $_{a\ b}$	6.33**	0.02
Negative Attitudes About Mental Healthcare	0.3 (0.7)	0.3 (0.7) $_{a}$	0.3 (0.59) $_{b}$	1.0 (0.9) $_{a\ b}$	20.4**	0.05

Study 2: Key Findings

- At-risk/problem gamblers reported:
  - **More issues with suicidal ideation or attempts**
  - **Thoughts of self-harm**
  - Higher co-occurring psychopathology
- At-risk/problem gamblers also reported:
  - Lower levels of social support
  - Perceived that there were more barriers for seeking mental health care
  - More negative attitudes about the mental health system
- Veteran gamblers may be isolated and without social supports.

The Hidden Epidemic: Need to Screen

- There is no biological test to screen for gambling disorder.
  - The absence of a physical sign of gambling problems allows a person to hide gambling behavior for longer periods of time.

- Clinicians don't often recognize the symptoms and rarely screen for problem gambling.
  - If they don't ask, those with the problem won't tell.
  - AND, if you don't ask the right way, you won't get the right answer.

- 85 to 90 % of problem gamblers do not seek treatment. Possible causes include:
  - The individual's denial that there is a problem
  - Ambivalence about changing the gambling behavior
  - Lack of health insurance or access to professional treatment
  - The dearth of treatment programs available

Brief Biosocial Gambling Screen (BBGS)

Have you gambled in the past 12 months?	No/ Yes*
1. During the past 12 months, have you become restless irritable or anxious when trying to stop/cut down on gambling?	No / Yes
2. During the past 12 months, have you tried to keep your family or friends from knowing how much you gambled?	No / Yes
3. During the past 12 months, did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends or welfare?	No / Yes

Any "yes" responses, suggestive of possible problem gambling.

(Gebauer et al., 2010)

Other Problem Gambling Screening Instruments

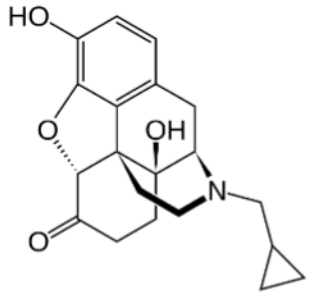
- South Oaks Gambling Screen (Lesieur & Blume, 1987)
- National Opinion Research Center DSM-IV Screen (Gerstein et al., 1999)
- Massachusetts Gambling Screen (Shaffer et al., 1994)
- Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) – Score higher than 8, indicative of problem gambling. ** Preferred screener for clinical work

Treatments for Gambling Disorder

- Gambling disorder responds to similar treatments as substance use disorders.
  - Recovery support services–peer support & 12-step program (Gamblers Anonymous)
  - Motivational enhancement
  - Brief advice giving/psychoeducation
  - Cognitive behavioral therapies (Petry, Rash, & Alessi, 2016)

- N-Acetylcysteine, a glutamate-modulating agent, in treating gambling and smoking (Grant et al., 2014).

- Naltrexone (opioid antagonist) has shown efficacy in controlled trials (Bartely & Bloch, 2013).



Mr. X: Example of Gambling Problem

- Mid-30s, male Veteran of southeast Asian descent. Unemployed.
- Diagnostic history: bipolar disorder and severe traumatic brain injury (TBI) with bilateral damage to frontal lobe; started gambling prior to TBI.
  - Flat affect, thought process often tangential and disorganized
- Referred following psychiatric inpatient hospitalization for sustained financial losses at casinos.
- Family members achieved high levels of educational and professional success.
- Veteran had no significant abstinence from gambling and preferred not to talk about it.
- Treatment approach: develop SMART goals, operationalizing values, family therapy.

Mr. V: Example of Gambling Problem

- Middle-aged, white, male Veteran
- Sought treatment to stop using scratch-off tickets—met criteria for mild gambling disorder
  - Had recently self-initiated refraining from scratch ticket use
- 6 treatment sessions (spread out over ~4 months)
- Treatment strategies (psychoeducation + CBT)
  - Cognitive distortions about gambling
  - Money spent vs. identified values
  - Behavioral control strategies
  - Stress management
  - Identifying compulsive vs. "safe" gambling
  - Relapse prevention strategies

Summary

Key Findings

- Gambling disorder is rarely detected among Veterans but has serious consequences if left untreated.

- Further studies are needed to determine the precise estimates of gambling disorder among US military Veterans (or active duty military personnel). **We need US national representative data on gambling behaviors among military Veterans (comprehensive study).**

- We need to validate and disseminate an effective brief screener for problem gambling across VA and DoD.

- Suicide risk is elevated among Veterans with gambling problems requires more research.

Future Directions

- Future research is needed to identify barriers to Veterans seeking help for problem gambling.
  - There appears to be a disconnect with money spent and endorsement of gambling problems.
  - Barriers exist among both providers and Veterans.
  - Mixed methods research could help identify barriers and solutions for treatment engagement.

Future Directions

- Additional research is required to determine how best to screen for gambling problems among Veterans, particularly when screening in primary care.
  - Unclear if BBGS is an effective tool. We need to compared BBGS to other brief problem gambling screeners.
  - We need to test several brief problem gambling measures in different treatment settings with veterans

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