Gambling Behaviors and Perceived Health among Incarcerated Older Adults

Cindy H. Kerber, PhD, APRN, BC; Kari L. Hickey, MS, RN; Kim M. Astroth, PhD, RN; and MyoungJin Kim, PhD

ABSTRACT
The proliferation of lotteries and casinos has led to increased participation in gambling. Older adults who have opportunities to gamble may be vulnerable to gambling problems, and incarcerated older adults may be the most vulnerable. Furthermore, research has linked decreased health to gambling problems. This study compared perceived health and gambling problems among 43 incarcerated older adults from two county jails in the midwestern United States. Results from the South Oaks Gambling Screen indicated 48.83% of the sample scored in the problem or pathological range. Short Form-36 results were compared with U.S. norms for ages 55 to 64 and showed significantly lower perceived health scores on Role-Physical, Bodily Pain, Mental Health, Social Functioning, and Role-Emotional subscales. The problem and pathological gamblers showed significantly lower social functioning than the recreational gamblers. Assessment of health conditions and gambling behaviors is important for quantifying current and anticipated burdens of these conditions on correctional health care systems and the community.

Since the expansion of legalized gambling, there has been a corresponding increase in gambling participation and gambling problems (Shaffer & Hall, 2001). Incarcerated adults have the highest rate of problem or pathological gambling, ranging from 5% (McCorkle, 2002) to 45% (Abbott, McKenna, & Giles, 2005) as compared with the general population rate of 0.6% (Chou & Afifi, 2011). People with gambling problems have substantial debt and disordered family relationships (Shaw, Forbush, Schlinder, Rosenman, & Black, 2007). Pathological gambling is characterized by a lack of control of gambling behavior, unsuccessful attempts to quit or cut back, tolerance, use of gambling to escape problems, and lying to family and friends about gambling behavior (American Psychiatric Association [APA], 2000a). Problem and pathological gambling have also been associated with lower levels of health and higher rates of illness across populations (Erickson, Molina, Ladd, Pietrzak, & Petry, 2005).
Older adults may be more vulnerable to gambling problems due to fixed incomes, boredom, and decreased activity after retirement, and pathological gamblers have higher rates of anxiety, depression, and alcoholism (Kerber, Black, & Buckwalter, 2008). Older adults with gambling problems are also vulnerable to comorbid physical illnesses. Older adult gamblers may have experienced more financial stress that affects their physical health (Pietrzak, Molina, Ladd, Kerins, & Petry, 2005). The purposes of this study are to identify the prevalence of lifetime gambling problems and describe perceived health in this older, incarcerated population.

**LITERATURE REVIEW**

Pathological gambling is a growing public health problem that has received little attention from researchers, the government, or the general public. With the growth of legalized gambling, the prevalence of problem and pathological gambling is increasing (National Gambling Impact Study Commission, 1999). Some form of legalized gambling now exists in every state except Hawaii and Utah, and 37 states have casino gambling (U.S. Casino, 2011). In 1999, pathological gambling was estimated to cost society approximately $5 billion per year and an additional $40 billion in lifetime costs for reduced productivity, social services, and creditor losses (National Gambling Impact Study Commission, 1999). More recently, Grinols (2004) estimated the annual cost at $54 billion.

The rapid growth in the frequency of pathological gambling has led to an increasing awareness of its adverse effects on individuals and society. The personal distress felt by individuals may lead to substance abuse, depression, domestic abuse, incarceration, and even suicide, in some cases (Petry & Kiluk, 2002). Family relationships are disrupted, while embezzlement and fraud occur in the workplace, and the burden of bankruptcy affects individuals, families, and the community (Shaw et al., 2007).

**Gambling Problems Among Older Adults**

Pathological gambling is even more problematic in older adults. This is of particular concern because their involvement in gambling has increased dramatically in recent decades (National Gambling Impact Study Commission, 1999) as gambling opportunities have proliferated and because the U.S. population is aging. Easy accessibility, combined with the availability of time and funds, has fueled its growth. Limited resources and a reduced amount of time to recover losses make financial and personal loss from gambling particularly tragic. Even small losses can have a significant financial impact on older adults with fixed incomes. In addition, the gambling industry targets this population in their marketing with discounted meals, hotel rooms, and medication discount coupons.

Older adult gamblers are vulnerable to some unique health concerns. Poor health effects include sitting for long periods in smoke-filled environments, eating less frequently than normal, and participating in games that may raise heart rates and excitement levels. In contrast to younger gamblers, older adults may have diabetes, cardiopulmonary disease, or circulatory problems (Desai, 2004), which can be exacerbated. Erickson et al. (2005) reported that community-based older adults with gambling problems have greater physical and mental health problems than non-gambling peers. Zarneke and Chapeski (2005) reported that older adults who visited a casino more than once per month reported poorer mental health, lower incomes, and less social engagement.

**TABLE 1**

**DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Recreational Gamblers (n = 24)</th>
<th>Problem/Pathological Gamblers (n = 19)</th>
<th>(p) Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>57.43 (4.77)</td>
<td>54.47 (3.91)</td>
<td>0.036*</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td>0.686</td>
</tr>
<tr>
<td>Men</td>
<td>19 (79.2)</td>
<td>13 (86.7)</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>5 (20.8)</td>
<td>2 (13.3)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td>0.096</td>
</tr>
<tr>
<td>Caucasian</td>
<td>10 (55.6)</td>
<td>4 (22.2)</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>8 (44.4)</td>
<td>14 (77.8)</td>
<td></td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
<td>0.100</td>
</tr>
<tr>
<td>12th grade or less</td>
<td>12 (50)</td>
<td>8 (44.4)</td>
<td></td>
</tr>
<tr>
<td>Technical school</td>
<td>2 (8.3)</td>
<td>6 (33.3)</td>
<td></td>
</tr>
<tr>
<td>One year of college or more</td>
<td>10 (41.7)</td>
<td>4 (22.2)</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td>0.140</td>
</tr>
<tr>
<td>Single</td>
<td>14 (63.6)</td>
<td>15 (88.2)</td>
<td></td>
</tr>
<tr>
<td>Married/committed relationship</td>
<td>8 (36.4)</td>
<td>2 (11.8)</td>
<td></td>
</tr>
</tbody>
</table>

*Note. Missing data are as follows: age \(n = 1\), sex \(n = 4\), race \(n = 7\), educational level \(n = 1\), and marital status \(n = 4\).*  

\(p < 0.05\).
support than those who gambled less frequently; they were also less likely to have other social activities.

Prevalence of Gambling Problems

National prevalence studies for pathological gambling typically survey individuals by telephone with diagnostic screens where rates are much lower. Welte, Barnes, Wieczorek, Tidwell, and Parker (2001) conducted a telephone survey using both the National Opinion Diagnostic Screen for gambling and South Oaks Gambling Screen-Revised (SOGS). Scores consistent with pathological gambling were identified in 1.9% of respondents. Lesieur (1994) critiqued epidemiological studies, making the case that many of the prevalence studies underestimated problem and pathological gambling. He raised the concern that these studies were not comprehensive and that supplemental surveys were needed to obtain data from prison, jail, and homeless populations (Lesieur, 1994). The exclusion of these high-risk populations has led to an understimation of the proportion of the population that may be problem or pathological gamblers (Lesieur, 1994). This argument was substantiated by Lepage, Ladouceur, and Jacques (2000) in a study of individuals who relied on a community agency for food or lodging and found 17.2% scored in the pathological gambling range on the SOGS.

Williams, Royston, and Hagen (2005) found in their review that approximately one third of prison inmates meets the criteria for problem or pathological gambling. Despite the rate being among the highest of all gambling populations (Shaffer & Hall, 2001; Walters, 1997), there is a lack of gambling awareness programs in prisons. If the crimes were committed to support gambling activities, offenders could benefit from optional or mandated treatment (Turner, Preston, Saunders, McAvoy, & Jain, 2009). Among the inmates categorized with severe gambling problems, 65.2% reported their criminal activity was related to gambling (Turner et al., 2009), such as embezzling money from an employer to pay gambling debts.

Incarcerated older adults have a greater risk of gambling problems than those in the general population (Williams et al., 2005), and the number of incarcerated older adults is increasing (Wilper et al., 2009). These incarcerated older adults are less likely to be a menace to society and are three times more expensive than younger inmates (Wilper et al. 2009). Caring for older adult prisoners is expensive; the average annual cost of caring for an older prisoner is $70,000, which is two to three times that of younger prisoners (U.S. Department of Justice, National Institute of Corrections, 2004). The difference in caring for older prisoners is most likely due to their unique and expensive health problems. They have five times as many visits to health services per year than their counterparts in the community, and any treatment or services they require outside of corrections carries additional costs in time, manpower, and travel by correctional staff (U.S. Department of Justice, National Institute of Corrections, 2004).

Perceived Health and Gambling

Pietrzak et al. (2005) examined perceived health in a community sample of 48 older adult problem/pathological gamblers and found poorer perceived health on five of the eight Short Form-36 (SF-36) subscales, including vitality ($p < 0.001$), physical functioning.
(p < 0.001), role-physical (p = 0.024), general health (p = 0.008), and social functioning (p = 0.018), when compared with non-gamblers or infrequent gamblers. However, no research was found on the relationship between problem and pathological gambling and perceived health of incarcerated older adults. Therefore, three specific aims guided this study:

- Determine the prevalence of lifetime problem and pathological gambling behaviors among incarcerated older adults.
- Determine perceived health subscale scores among incarcerated older adults.
- Describe the relationship and degree of problems associated with lifetime gambling behaviors and perceived health subscale scores.

**METHOD**

**Design and Sample**

A cross-sectional descriptive, correlational design was used to describe relationships between level of gambling problems and perceived health in a convenience sample of older inmates. The participants were recruited from two county jails in the midwestern United States. Recruitment sites were selected based on convenience and willingness to allow screenings. The researcher received Institutional Review Board approval for human subjects research and letters of support from each county sheriff. All incarcerated adults 50 and older and able to read and write English were offered an opportunity to participate. There is a growing consensus about how to define older adult or elderly in the United States correctional system, with the majority of researchers using age 50 and older (Aday, 2003; Kuhlmann & Ruddell, 2005; Loeb & AbuDagga, 2006). Adopting age 50 as a minimum standard for older inmates seems to be an appropriate classification and promotes comparisons across research studies (Loeb & AbuDagga, 2006).

Forty-six incarcerated older adults were recruited for the study and gave informed consent. One inmate was dropped due to incorrect reporting of age (younger than 50), and two others were dropped due to the large amount of missing data on the surveys, leaving a sample of 43. The participants were divided into two different groups based on their SOGS scores. They were assigned to the “recreational gambler” group if their SOGS score was ≤2 and to the “problem/pathological gambler” group if their SOGS score was ≥3. Comparison between the recreational gamblers and problem/pathological gambler groups did not differ on most sample characteristics (Table 1).

**Measures**

The SOGS is a survey that measures both the presence and severity of gambling behaviors and has been used in both the older adult (Erickson et al., 2005; Kerber et al., 2008; Pietrzak et al., 2005) and prisoner populations (Abbott et al., 2005; Walters, 1997). The SOGS score determined the level of gambling behavior by the number of problems identified by the participant. A score of 5 or more is consistent with a diagnosis of pathological gambling. A score of 3 or 4 is considered pre-clinical or consistent with problem gambling. The APA (2000b) found the SOGS to have satisfactory reliability in a sample of university students, hospital employees, and Gamblers Anonymous® mem-

**TABLE 3**

<table>
<thead>
<tr>
<th>COMPARISON OF PERCEIVED HEALTH SUBSCALE SCORES BETWEEN RECREATIONAL AND PROBLEM/PATHOLOGICAL INCARCERATED OLDER ADULT GAMBLERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscale</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>Physical health component</strong>*</td>
</tr>
<tr>
<td>Physical functioning</td>
</tr>
<tr>
<td>Role-physical</td>
</tr>
<tr>
<td>Bodily pain</td>
</tr>
<tr>
<td>General health</td>
</tr>
<tr>
<td><strong>Mental health component</strong></td>
</tr>
<tr>
<td>Vitality</td>
</tr>
<tr>
<td>Social functioning</td>
</tr>
<tr>
<td>Role-emotional</td>
</tr>
<tr>
<td>Mental health</td>
</tr>
</tbody>
</table>

**p < 0.01.**
The SF-36 measures perceived health and is derived from the Medical Outcomes Study General Health Survey (APA, 2000b). The SF-36 is a multi-purpose, short-form health survey with 36 questions, and it has been validated in older adult participants (APA, 2000b). Eight subscale scores are calculated for each of the following: physical functioning, role limitations due to physical problems (i.e., role-physical), bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems (i.e., role-emotional), and mental health. Each of these eight subscales is scored from 0 to 100. Higher scores indicate better perceived health for each of the subscales.

The SF-36 has proven useful in surveys of general and specific populations in comparing the relative burden of diseases and in differentiating the health benefits produced by a wide range of treatments (APA, 2000b). Pietrzak et al. (2005) measured health in a sample of community-dwelling older adults with gambling disorders; however, no psychometric data were reported with this population. Reliability estimates, based on both internal consistency and test-retest methods, have been reported to be between 0.89 and 0.94 for the physical assessments of health and from 0.74 to 0.91 for the mental health measures in the general population (Ware, Kosinski, & Gandek, 2005).

Procedure

Selection criteria for the study were discussed with the jail captains, as well as the nursing supervisors. Inmates were selected based on inclusion criteria and brought to a classroom by corrections personnel. Inmates met with researchers in groups according to their pod or group’s location in the jail, starting from the top floor. The jail does not allow researchers in pods, so corrections officers transported inmates.

Surveys were collected upon exit from the classroom, and a pencil count was conducted to make sure all items were accounted for before inmates returned to their pod.

Data Analysis

All data were analyzed with SPSS version 18. Missing data for the SF-36 were replaced using the recommended substitution algorithm (Ware et al., 2005). Descriptive statistics were used to determine the prevalence of lifetime problem and pathological gambling behaviors and to determine perceived health subscale scores among incarcerated older adults. Chi-square tests for variables at categorical levels and independent-sample t tests for variables at continuous levels determined differences between recreational gamblers and problem/pathological gamblers. One-sample t tests determined differences between perceived health subscale scores of this group and one of the age-specific U.S. norms. Independent-sample t tests described the relationship and degree of problems associated with lifetime gambling behaviors and perceived health subscale scores. Statistical significance was set at p ≤ 0.05.

RESULTS

Among the 43 participants, 13 (30.2%) endorsed five or more gambling behaviors, indicating probable pathological gambling. Six (14%) scored either 3 or 4, indicating probable problem gambling, and 24 (55.8%) were recreational gamblers. Only 9 (20.9%) believed they had a gambling problem. The most common problem was “gambling more than intended to,” followed by “claimed to be winning money gambling but weren’t really,” “felt guilty about the way you gamble,” and “go back another day to win back money.” Of all the gamblers, more than half had played cards for money and purchased lottery tickets.

Perceived health subscale scores among these incarcerated older adults were lower than the U.S. norm, indicating that this group’s perceived health is worse (Table 2). Significantly lower scores were found in physical functioning, role-physical, social functioning, role-emotional, and mental health. Among the recreational and the problem/pathological groups, only social functioning was significantly different. The problem/pathological group (mean = 50.69, standard error [SE] = 6.74) had lower social functioning than the recreational group (mean = 78.41, SE = 5.21), t(38) = 3.31, p = 0.002, r = 0.47 (Table 3).

DISCUSSION

This study compared gambling behavior and perceived health among incarcerated older adults and appears to be the first examination of older inmate health and gambling behaviors. Previous studies have found relationships between problem gambling and lower general health in community-dwelling women (Afifi, Cox, Martens, Sareen, & Enns, 2010) and older adults (Erickson et al., 2005). However, no studies were found that assessed
relationships between problem gambling and perceived health status in the older inmate population.

Problem and pathological gambling was a common problem in this population, with 44.2% scoring in this range; yet, only 20.9% of respondents believed they had a gambling problem. Among the gambling problems on the SOGS, these participants most frequently endorsed “gambling more than intended to” and “claimed to be winning money gambling but weren’t really,” “felt guilty about the way you gamble,” and “go back another day to win back money.” These responses help nurses understand that these participants do not perceive gambling behaviors as problematic. Incarcerated older adults in this study had lower perceived health scores than the U.S. norm for their age group in physical functioning, role-physical, social functioning, role-emotional, and mental health. Problem/pathological gamblers had poorer perceived health in social functioning than recreational gamblers. This finding is consistent with Pietrzak et al.’s (2005) study of community-dwelling older adult gamblers. The measure of social functioning relates to physical health interfering with social life events, which is common among gamblers, with increased risk for both physical and psychiatric comorbidities. The lower perceived health of the older inmates may be explained by findings from Abbott et al. (2005), who found lifetime and current problem gamblers in New Zealand prisons were significantly more likely to have used tobacco and illegal substances, which may contribute to poor health.

LIMITATIONS

This study has several limitations. First, the results should be interpreted with caution due to the small sample and limited geographical area. Future studies could include more jails from more areas of the country to increase sample size. Second, the sample was predominately African American, so it is unclear if race contributes to gambling behavior and/or perceived health. A more diverse sample would expand the generalizability to other populations. Lastly, sampling bias may have affected study results because inmates were invited to participate in the study by correctional staff, and those in segregation and maximum security settings were not included.

Another methodological limitation of this study is that SF-36 and SOGS scores are dependent on self-report. It was not feasible to obtain external verification of gambling behavior of these older inmates. Also, because gambling is not sanctioned in jail, it is possible current gambling behavior may be underreported. SF-36 scores could have been compared with medical chart data; however, the intent of the study was to ascertain how older inmates perceived their health while incarcerated.

IMPLICATIONS FOR PRACTICE

The implications of these findings for practicing nurses both within and outside of the corrections environment suggest the need for problem gambling screening, education, referral, and treatment in this population. Given the high prevalence of pathological gambling in the older inmate population, it would be prudent to screen for gambling problems on intake to facilitate early detection and referrals for treatment. Nurses, along with correctional staff, can develop patient education classes about gambling problems and pathology, and recommend treatment opportunities such as Gamblers Anonymous and Gam-Anon® meetings inside jails and prisons.

CONCLUSION

Nurses may encounter inmates and recently released inmates in community settings, such as the emergency department, private health care provider offices, Federally Qualified Health Centers, homeless shelters, churches, and free clinics. Providing education, assessment, and treatment for problem gambling in the older incarcerated population may improve quality of life for both inmates and the community.

REFERENCES


KEYPOINTS

1. Inmates have higher rates of problem gambling compared with the general population: 30.2% scored as pathological gamblers and 14% scored as problem gamblers. Additionally, only 20.9% believed they had a gambling problem.

2. Incarcerated older adults reported significantly worse health on most subscales of the Short Form-36 (SF-36) when compared to U.S. norm.

3. Incarcerated problem and pathological gamblers scored significantly lower on the social functioning subscale of the SF-36 than recreational gamblers.

4. Incarceration may provide an opportune time to screen and provide treatment for gambling addictions.

Do you agree with this article? Disagree? Have a comment or questions? Send an e-mail to the Journal at jpn@healio.com.

Dr. Kerber, Dr. Astroth, and Dr. Kim are Assistant Professors, Menno- nite College of Nursing, Illinois State University, Normal, and Ms. Hickey is Instructor, Northern Illinois University, DeKalb, Illinois.

The authors disclose that they have no significant financial interests in any product or class of products discussed directly or indirectly in this activity. The authors acknowledge research support from Menno- nite College of Nursing, Illinois State University.

Address correspondence to Cindy H. Kerber, PhD, APRN, BC, Assistant Professor, Menno- nite College of Nursing, Illinois State University, Campus Box 5810, Normal, IL 61790-5810; e-mail: ckerber@ilstu.edu.

Received: December 28, 2011
Accepted: June 5, 2012

Do you agree with this article? Disagree? Have a comment or questions? Send an e-mail to the Journal at jpn@healio.com.