Designing and Evaluating the Validity and Reliability of the Persian Gambling Disorder Screening Questionnaire

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Original Article

Abstract

Background: Gambling disorder (GD) and substance use disorder (SUD) have mutual impact and each could aggravate the effects of the other. This is the first study on GD among Iranian substance users to develop and validate a GD Screening Questionnaire-Persian (GDSQ-P).

Methods: Iranian male adults (n = 503) with SUDs were recruited via clustered sampling. Problem gambling screening instruments and Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5) criteria for GD were used to develop the tool which was sequentially assessed for face validity, content validity index (CVI), content validity ratio (CVR), and reliability (Kuder-Richardson coefficient). To establish construct validity, interviews based on DSM-5 as a gold standard method were used. A receiver operating characteristic (ROC) curve was conducted to determine sensitivity and specificity.

Findings: After removing items with low CVI values, 27 final items remained in GDSQ-P with impact score greater than 1.5. Card games (33.8%), dice gambling methods (26.6%), betting on sports teams and players (24.1%), and betting on horseback, rooster, pigeon, dog, or other animals (16.7%) were common gambling methods among participants. Overall Kuder-Richardson coefficient was 0.95. Cut-off threshold for GDSQ-P was calculated as 4.5 with 98.9% sensitivity and 98.3% specificity. The interviewers confirmed GD for participants based on DSM-5 as the gold standard. The prevalence of GD among participants was 17.9% based on GDSQ-P and 19.1% based on DSM-5 criteria.

Conclusion: GDSQ-P is a valid and reliable tool to screen for GD in SUD treatment centers and probably in the general population.

Keywords: Gambling; Substance abuse; Screening; Questionnaire; Iran

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Introduction

Gambling disorder (GD) has been recognized as a separate entity in the newly-expanded "Substance-related and Addictive Disorders" section of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5).[1] GD is one of the only recognized behavioral addictions which has many shared features with substance use disorder (SUD). Major relationship breakdown, change or loss of employment, economic impairment, high rates of suicidality, increasing criminal activities, and notably poor quality of life are some of the reasonably well-established consequences of GD.[2-5]

Studies have shown variation in rates of prevalence of GD depending on the region of the world, type of assessments, and type of populations studied. In most population-based studies, the prevalence ranges from 1%-10%. Majority of the studies, however, have investigated populations in the western countries.[2-10] In a survey on 8405 Danish adults, Harrison et al. reported that 2.6% of adults suffered from GD.[6] Dowling et al. reported a prevalence of less than 1% for problem gambling among Australian adults.[7] In Italian general population, the prevalence of GD has been estimated to be up to 2%, which was similar to the estimates from a large national sample of German adults.[8,9] In a large national sample in the United States (US), the prevalence of GD was estimated to be 4%.[10] Currently, no national study has estimated the prevalence of GD in any country of the Eastern Mediterranean region.

Besides the region and type of study, GDs have been found to be strongly related with SUD across various populations.[11-15] The proportion of people with GD having SUDs again varies by study type and region. For instance, a study by Himelhoch et al.[11] found that a little less than half (46.2%) of people with SUDs who received methadone maintenance treatment (MMT) met DSM-5 criteria for GD, while Rennert et al.[12] reported that almost a tenth (10.4%) of people with SUDs met the criteria for GD on the basis of DSM-5 (i.e., ≥ 4 of 9 criteria). A recent systematic review of population-based studies found that problem and pathological gamblers had high rates of several other comorbid disorders, with the second highest average prevalence of SUDs

(57.5%).[13] Results of another review and meta-analysis on the prevalence of GDs in SUD treatment populations found that more than a tenth (14%) of the people with SUDs demonstrated comorbid pathological gambling and more than a fifth (23%) suffered from conditions along the spectrum of problem gambling.[14] In addition to the comorbid nature of SUD and GD, risk taking, the health and quality of life, addiction chronicity, relapse tendencies, and the treatment outcomes are worse among those who have both SUD and GD compared to those who have either of the two disorders alone. Above all, individuals with SUD may be successful in achieving sobriety from the SUDs, but may have difficulties controlling gambling problems when GD and SUD are comorbid.[15-17]

SUDs have now been recognized as a leading cause of mortality and morbidity in the Eastern Mediterranean region.[18-22] For example, according to recent estimates, Iran has over four million people with SUDs in need of treatment services. In addition, more than a fifth of Iranians have a diagnosable mental illness, frequently comorbid with SUDs.[19] The relapse rates are high as seen in treatment programs and the government of Iran is adding more resources and infrastructure to deal with the problem. However, the major challenge is lack of research and evidence-based practices in Iran and the surrounding nations.[20-22] For instance, GDs have never been studied in Iran and are emerging as a major challenge, especially in light of SUD prevalence and comorbidity. The development of a screening tool for GDs is probably the first stage in ensuring comprehensive surveillance of those with comorbid SUDs and GDs. Thus, the purpose of this study was to assess the prevalence of GDs in individuals with SUDs and create a screening tool for GDs in Persian language, i.e., GD Screening Questionnaire-Persian (GDSQ-P).

Methods

Procedures and protocols: We conducted a cross-sectional study in Tehran, Iran, in the academic year of 2017-2018. Individuals with SUDs who registered in mid-term substance use residential treatment centers (MSURTCs) in Tehran were included via clustered sampling (17 MSURTCs were randomly selected in the northern, central,

and southern zones of Tehran). MSURTCs provide 28 to 90 days abstinence-based treatment services for recovering opiate users in Iran.[19,20] Services in MSURTCs are offered predominantly by former SUD patients and emphasize on improving coping mechanisms and enhancing relapse prevention skills.[21] Participants (n = 503) were selected via convenience sampling in each MSURTC. All of the participants were men. Approval of the study was obtained from the Ethical Review Committee of Iranian Scientific Association of Social Work (ISASW) (case number: 95/P/431). Participation in the research was anonymous and voluntary. All participants were informed about the procedures and protocol of the research project by presenting an oral informed consent. In order to prevent possible stigmatization, the research team never asked questions in group settings, even if the peers or treatment center staff were familiar with the participants' background.

Measures: A standardized questionnaire was used to collect information on sociodemographic characteristics of the study population (e.g., age, gender, education, marital status, employment, etc.), gambling background in the family, and study participants' gambling methods. Gambling symptoms during the last 12 months were evaluated using the semi-structured interview and a nine-item checklist covering the DSM-5 criteria as gold standard for GD.[1,2,11]

Qualitative face validity assessment: To develop the GDSQ-P, 8 problem gambling screening instruments were reviewed including Brief Biosocial Gambling Screen (BBGS), Early Intervention Gambling Health Test (EIGHT), Lie-Bet Questionnaire, National Opinion Research Center DSM Screen for Gambling Problems (NODS) survey, South Oaks Gambling Screen (SOGS), Victorian Gambling Screen (VGS), and Problem Gambling Severity Index (PGSI).[23-30] An item pool of 39 questions assessing behaviors in the past 12 months according to DSM-5 GD criteria was generated. In other words, study participants were asked to report on the behavioral patterns and consequences of gambling during the previous 12 months with response options of 'yes' or 'no'. A response of 'yes' was scored as 1 and a response of 'no' was given a score of 0 (i.e., higher scores represented greater severity of gambling). To assess and

establish the face validity of the GDSQ-P, gamblers and healthcare or social services professionals (n = 10 in each group) were invited to review the content, style, appropriateness, reading difficulty, relevance to gamblers, and ambiguity of the survey items related to gambling behaviors.[31-33] The scale was revised to improve content and style based on the comments of this panel (n = 20).

Quantitative face validity assessment: Item impact technique was employed to assess quantitative face validity of the GDSQ-P. The same pool of 20 individuals included above was invited to determine the importance of the items on a Likert-type scale from 1 (not important) to 5 (highly important). The item impact score for each was computed with the following formula: importance × frequency. In this formula, frequency was equal to the number of participants who had assigned a score of 4 or 5 to an item and relative importance was equal to a score of 4 or 5. If the impact score of an item was greater than 15, the item was considered as useful and it was maintained in the scale.

Qualitative content validity assessment: The GDSQ-P was provided to a group of 10 experts (nine SUD treatment experts and one methodologist) who were asked to review the item wording, distribution, and scaling, so that appropriate data analysis could be conducted and true symptoms were captured.[31-33] The GDSQ-P was revised again based on suggestions from the expert reviewers.

Quantitative content validity assessment: The quantitative content validity of the scale was assessed by computing the content validity ratio (CVR) and content validity index (CVI) for the survey items.[31,32] CVR reflects whether the scale items are essential or not for the purpose of the study. Accordingly, the same 10 experts were asked to rate the essentiality of the GDSQ-P items on a 3-point scale with the response options including 'not essential' coded as 1, 'useful but not essential' coded as 2, and 'essential' coded as 3. The CVR of each item was calculated by using the following formula: CVR = $(n_e - N/2)/(N/2)$. In this formula, N and n_e are equal to the total number of experts and the number of experts who scored a certain survey item as 'essential', respectively. When the number of panelists is 10 members, 0.62 is the minimum acceptable

CVR.[31-34] CVI shows the degree to which the items of the intended scale are simple, relevant, and clear. The CVI can be calculated for each item of a scale (item-level or I-CVI) and for the overall scale (scale-level or S-CVI). We asked the same 10 panelists to rate the simplicity, relevance, and clarity of the GDSQ-P items on a 4-point scale with the four points for rating the relevance of the items appearing as: 'not relevant', 'somewhat relevant', 'quite relevant', and 'highly relevant' (scored as 1, 2, 3, and 4, respectively). The I-CVI of each item was calculated by dividing the number of panelists who had rated that item as 3 or 4 by the total number of the panelists. When the number of panelists is equal to 10, the items which acquire an I-CVI value of 0.78 or greater are considered as appropriate.[31-34]

Construct validity: The receiver operating characteristic (ROC) and area under curve (AUC) were used to determine cut-off points in the questionnaire. In the plot of ROC, the closer the curve to the top-left borders of the ROC space, the more accurate a test is. AUC quantifies the overall ability of a screening test to discriminate between those individuals with the disease/condition and those without the disease/condition.[35,36] This area is a measure of the predictive accuracy of a model. This area should be greater than 0.5 for an acceptable test. The traditional categories for AUC are: excellent (score = 0.90-1.00), good (score = 0.80-0.90), fair (score = 0.70-0.80), poor (score = 0.60-0.70), and fail (score = 0.50-0.60).[28,29,35,36]

Reliability assessment: The reliability of the GDSQ-P was examined using Kuder-Richardson coefficient (coefficient of 0.70 or greater shows satisfactory internal consistency).[28-31]

Analyses for all the validity and reliability criteria listed above were conducted. Based on the nine criteria for GD in the DSM-5, participants were categorized as having: mild (scores of 4-5), moderate (scores of 6-7), or severe (scores of 8-9) GD symptoms.[1] Statistical significance was set a priori at P < 0.05. Data were analyzed using the SPSS software (version 24, IBM Corporation, Armonk, NY, USA).

Results

Demographic characteristics of the study population are illustrated in table 1. Majority of the participants were less than 35 years of age, had more than 10 years of formal education, married, and employed. In relation to gambling history among family and friends, majority of the participants had at least one family member, relative, or friend who gambled (58.6%) (Table 1). The four most common gambling methods among participants were: card games (33.8%), dice gambling methods (26.6%), betting on sports teams and players (24.1%), and betting on horseback, roosters, pigeons, dogs, or other animals (16.7%) (Table 2).

Table 1. Study participants' demographic characteristics and gambling profile

Variables		n (%)
Age (year)	≤ 35	310 (61.6)
	≥ 36	193 (38.4)
Education (number of years of formal education)	0-9	196 (39.0)
	≥ 10	307 (61.0)
Marital status	Married	410 (81.5)
	Single	93 (18.5)
Employment status	Employed	325 (64.6)
	Unemployed	178 (35.4)
Gambling among family or friends	Nobody	208 (41.4)
	At least one person	295 (58.6)

Table 2. Frequency of types of gambling among participants in the last 12 months

Gambling types	Never [n (%)]	Less than once a week [n (%)]	More than once a week [n (%)]
Card games (e.g., poker, 21, etc.)	325 (64.6)	117 (23.3)	53 (10.5)
Players on sports teams or sports teams*	368 (73.2)	91 (18.1)	30 (6.0)
Dice gambling methods (like backgammon and crossover)	368 (73.2)	75 (14.9)	49 (9.7)
Lotteries	416 (82.7)	61 (12.1)	13 (2.6)
Horseback, roosters, pigeons, dogs, or other animals	407 (80.9)	59 (11.7)	25 (5.0)
Jacks game	421 (83.7)	50 (9.9)	19 (3.8)
Doing games (e.g., golf, bowling, and the like)	439 (87.3)	34 (6.8)	20 (4.0)
Bingo game	462 (91.8)	20 (4.0)	7 (1.4)

*Betting on swimming and shooting are legal in Iran

Table 3. Items of the gambling disorder screening questionnaire in Persian (GDSQ-P)

DSM-5	Items
1	Did you bet more than you intended to?
1	Did you feel the need to gamble with larger amounts of money to get the same feeling of excitement?
9	Have you borrowed money or sold anything to get money to gamble?
10	Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
10	Has your gambling caused any financial problems for you or your household?
3	Have you felt to stop your gambling but thought you are unable to do that?
9	Have you borrowed money but could not pay back because of gambling?
8	Have you been late at school or work because of your gambling?
8	Have you been absent from school or work because of your gambling?
8	Have you ever been fired or been threatened to be fired from school or work because of your gambling?
7	Have you lied about winning in gambling to others while you have not really won?
10	Did you gamble more times than you intended to?
6	Have you gambled to pay back loans or solve financial problems caused by your previous gambling?
6	Have you thought of going back soon after having gambled to win back the money you lost in gambling?
1	Have you continued gambling until losing your last coin?
10	Have you done illegal activities (such as overdraw, stealing, etc.) to get money for gambling?
10	Have others complained about you because of your gambling or problems caused by your gambling?
10	Have you ever been arrested because of your gambling problems?
8	Have your family, friends, or significant others changed their relationship with you because of your gambling?
8	Have your family, friends or significant others left you because of your gambling?
2	Have you felt restless or irritable when you tried to reduce your gambling?
2	Have you felt restless or irritable when you tried to stop your gambling?
4	Have you spent a lot of time planning for the next gambling session?
9	Have you ever needed other people's help for your financial problems caused by gambling?
10	Has gambling caused you any health problems, including stress or anxiety?
10	Have you felt guilty about the way you gamble or what happens when you gamble?
7	Have you tried to hide your gambling from your parents, spouse, children, or significant others?

DSM-5: Diagnostic and statistical manual of mental disorders-5th Edition

The impact score of all items was greater than 1.5. CVR and I-CVI values of 12 items of the GDSQ-P were less than 0.62 and 0.79, respectively. Therefore, these items were excluded and 27 items remained in GDSQ-P (Table 3). Overall Kuder-Richardson coefficient was 0.95. The result of ROC analysis is presented in table 4. The result indicated that AUC was equal to 0.997 (considered excellent). The estimated cut-off point for the questionnaire was 4.5, where the person scoring equal or more than 4.5 was a gambler. The sensitivity, specificity, and accuracy for this cut-off point were 0.99, 0.98, and, 0.98, respectively. The ROC curve (Figure 1) shows that the highest sensitivity and specificity were obtained at a score of 4.5.
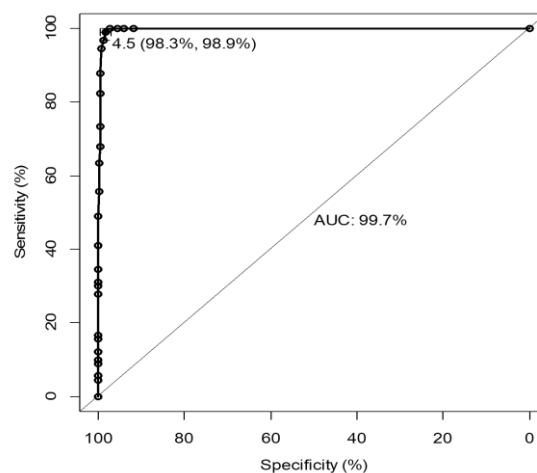

Figure 1. Receiver operating characteristic (ROC) curve
AUC: Area under curve

Table 4. Area under curve (AUC) and threshold value for questionnaire in receiver operating characteristic (ROC) analysis

AUC	95% CI (AUC)	Variance (AUC)	Power	Threshold value	Sensitivity	Specificity	Accuracy
0.9974	0.9945-1	2.3e-06	1	4.5	0.990	0.983	0.984

AUC: Area under curve; CI: Confidence interval

Table 5. Distribution of gamblers based on questionnaire and diagnostic and statistical manual of mental disorders-5th Edition (DSM-5)

DSM-5 disorder	Gambling category		Total
	< 4.5 (no disorder) [n (%)]	> 4.5 (gambler) [n (%)]	
No disorder	406 (98.3)	7 (1.7)	413
Gambler	1 (1.1)	89 (98.9)	90

DSM-5: Diagnostic and statistical manual of mental disorders, fifth edition

After categorizing the score of questionnaire based on 4.5, 98.3% of subjects without any disorder (based on DSM-5) were identified without disorder by the test (specificity) and 98.9% of gamblers (based on DSM-5) were identified gambler by the test (sensitivity) (Table 5).

About 7.6% of subjects with SUDs reported 4-5 symptoms of GD, while 6.8% of them reported 6-7 symptoms and 3.6% reported all symptoms of GD in last 12 months (Table 6). The prevalence of GD (mild, moderate, and severe) among participants was 17.9% based on GDSQ-P and 19.1% based on DSM-5 criteria (no significant difference).

Table 6. Severity of gambling disorder (GD) among participants with substance use disorder (SUD) based on diagnostic and statistical manual of mental disorders -5th Edition (DSM-5)*

GD	n (%)
No disorder	413 (82.1)
Mild	38 (7.6)
Moderate	34 (6.8)
Severe	18 (3.6)

*According to diagnostic and statistical manual of mental disorders-5th Edition (DSM-5) the severity of gambling disorder (GD) is specified based on the number of endorsed criteria (mild = 4-5, moderate = 6-7, and severe = more than 7 criteria)

Discussion

This study was the first attempt to develop and assess the psychometric properties of GDSQ-P among individuals with SUDs to provide a background and a standard tool for further research on screening for GD in Iranian population. Moreover, this study is an innovative contribution to the field of addiction in a Muslim-majority country, enlarging the analytical and geographical spectrum of the case studies. The results showed that GDSQ-P was a valid and reliable questionnaire for screening GD. Most of screening methods in GD involve diagnostic decision-making based on a scoring system. For example, with the DSM criteria for GD diagnosis, a person should be screened positive for five or more of listed symptoms.[23-27] GDSQ-P is a GD screening tool with cut-off points based on DSM-5 as the gold standard.

Gambling is illegal in the Islamic Republic of Iran except for betting on horseback, swimming, and shooting. In spite of that, card games, dice gambling methods, betting on sports teams and players, and betting on horseback, roosters, pigeons, dogs, or other animals are popular gambling methods. Illegal betting remains the most diffused form of game betting and the venues create a situation in which other illegal practices, such as drug or alcohol use, are substituted with other illegal practices such as illegal -and only to a minor extent legal-gambling. Unemployment and gambling background in family or social network are factors that may aggravate the comorbidity and problem gambling in Iranians with SUDs, similar to what has been observed in western populations.[13-16,37]

The prevalence of GD in the SUD samples has been reported in several studies with the vast majority of studies from western countries.[12-15] This study is also the first to provide estimates on the prevalence rates of gambling among people with SUDs in Iran. Based on our findings, 17.9% of people with SUDs met DSM-5 GD criteria. Undiagnosed and untreated comorbid disorders may have a negative impact on the outcomes of SUD treatment.[16,17,38,39] Globally, little attention has been devoted to addressing behavioral addictions treatment. In Iran, most of SUD treatment programs provide services related to substance withdrawal and there has been no progress in the standardization of prevention and treatment efforts for behavioral addictions, such as GDs. To improve patient outcomes and treatment efficacy in patients with SUD and GD diagnosis, parallel treatment of the disorders should be implemented. Developing and implementing a treatment protocol for people with both diagnoses of SUD and GD could be useful and a key to addressing a multitude of influences that may increase the risk of relapse

and failure of treatment.[38,39] Currently, there is no empirically-validated treatment program available for GDs in Iran, especially among those with SUDs. In part, this could be due to lack of surveillance and screening because of lack of a valid and reliable screening measure.

The results of this study should be viewed in the light of some potential limitations. This study focused on GD among people with SUDs who were registered in mid-term substance use residential treatment centers in Tehran. Generalization to the larger population and to all people with SUDs across Iran may not be possible. The study population consisted of men only and this is a major limitation of our study. However, finding women with addictive disorders in the community or treatment centers in a Muslim-majority country is nearly impossible. People with SUDs in other treatment settings such as MMT centers, self-help groups, etc. could be studied to assess the prevalence of GD. Even with these limitations, our study had the largest sample of all published studies and it is the first of its kind emerging from Iran. This study provides a starting point for comprehensive studies with a more robust data sample. Our measures can be utilized for broader population health promotion and addiction prevention strategies and surveillance. Given that the study was conducted on people with SUDs in Tehran, it should be replicated on a larger scale and with diverse populations across Iran and the Middle Eastern countries. Further studies could focus on comprehensive assessment of GDs among people with SUDs. Additional research should be conducted to develop and evaluate the effectiveness of special interventions for treating SUDs and GDs.[38,39]

Conclusion

The results of this study demonstrate that GDSQ-P is the first valid and reliable screening measure for GDs in Persian language in a population of people with SUDs. Common SUD treatment programs worldwide focus less on behavioral aspects of SUD and do not offer interventions for comorbid behavioral addictions such as GD. Inclusion of GD screening procedures in clinical practice is recommended for patients with SUD. Integration of GD screening among SUD treatment seekers may improve the treatment outcomes. This paper provides an analytically useful case study in Iran for a system treating people with SUDs, with ample leeway for research and experimentation. We propose that adding GD treatment to SUD treatment protocols will decrease the risk of relapse among people with SUDs and will increase the probability of maintenance in post treatment phases in Iranians with SUDs, and GDSQ-P can play a key role in surveillance.

Conflict of Interests

The Authors have no conflict of interest.

Acknowledgements

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طراحی و ارزیابی روایی و پایایی نسخه فارسی پرسش‌نامه غربالگری اختلال قمار

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مقاله پژوهشی

چکیده

مقدمه: اختلال قمار و اختلال مصرف مواد تأثیر متقابلی بر یکدیگر می‌گذارند و هر یک می‌توانند اثر دیگری را تشدید کنند. اختلال قمار، اولین اعتیاد رفتاری است که ویژگی‌های مشترک بسیاری با اختلال مصرف مواد دارد. پژوهش حاضر با هدف طراحی و اعتباریابی نسخه فارسی پرسش‌نامه غربالگری اختلال قمار (Gambling Disorder Screening Questionnaire-Persian یا GDSQ-P) انجام گرفت.

روش‌ها: ۵۰۳ مرد بزرگسال ایرانی که به اختلال مصرف مواد مبتلا بودند، به روش نمونه‌گیری طبقه‌ای انتخاب شدند. ابزارهای قمار مشکل‌ساز و معیارهای Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5) برای طراحی ابزار استفاده گردید. سپس شاخص روایی محتوا (Content validity index یا CVI)، نسبت روایی محتوا (Content validity ratio یا CVR) و اعتبار (همبستگی Kuder-Richardson) مورد بررسی قرار گرفت. به منظور بررسی روایی سازه پرسش‌نامه، مصاحبه‌ها بر اساس DSM-۵ به عنوان ملاک طلایی انجام شد. منحنی Receiver operating characteristic (ROC) جهت بررسی حساسیت و ویژگی انجام شد. GDSQ-P به منظور ارزیابی اختلال قمار در طول زندگی و طی ۱۲ ماه گذشته توسط آن‌ها تکمیل گردید.

یافته‌ها: پس از حذف آیتم‌هایی که ارزش CVI پایینی داشت، ۲۷ آیتم نهایی با نمره بالاتر از ۱/۵ در GDSQ-P باقی ماند. بازی با کارت (۳۸/۸ درصد)، روش‌های قمار با تاس (۲۶/۶ درصد)، شرط‌بندی روی تیم‌ها و بازیکنان ورزشی (۲۴/۱ درصد) و شرط‌بندی روی مسابقات اسب‌سواری، خروس، کبوتر، سگ یا سایر حیوانات (۱۶/۷ درصد) شایع‌ترین روش‌های قمار در میان شرکت‌کنندگان بود. همبستگی Kuder-Richardson، ۰/۹۵ به دست آمد. نقطه برش GDSQ-P برابر با ۴/۵ و ۹۸/۹ درصد حساسیت و ۹۸/۳ درصد ویژگی گزارش گردید. مصاحبه‌کنندگان، اختلال قمار در نمونه‌ها را بر اساس DSM-۵ به عنوان ملاک طلایی تأیید نمودند. شیوع اختلال قمار در میان شرکت‌کنندگان بر اساس GDSQ-P، ۱۷/۹ درصد و بر اساس معیار DSM-۵ نیز ۱۹/۱ درصد بود.

نتیجه‌گیری: GDSQ-P ابزار روا و پایایی برای غربالگری اختلال قمار در مراکز درمان اختلال مصرف مواد می‌باشد و می‌تواند از این پس برای غربالگری و درمان اختلال قمار در مراکز درمان اختلال مصرف مواد مورد استفاده قرار گیرد.

واژگان کلیدی: قمار، سوء مصرف مواد، غربالگری، پرسش‌نامه، ایران

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