

# Occurrence of depression and anxiety disorders according to the period of abstinence in patients addicted to gambling and alcohol

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## Abstract

**Introduction.** Psychiatric disorders are widely prevalent worldwide, and addictions to psychoactive substances have been dominant until recently, while increasingly more often there occur activity-addictions, e.g. to gambling. Concomitant mental disorders may contribute to the persistence of problems associated with addictions. The objective of the study was evaluation of the occurrence of depressive and anxiety disorders with respect to the period of abstinence, in 3 groups of addicts.

**Material and method.** The study covered a group of 101 individuals addicted to alcohol and gambling, and conducted during the period from November 2010 – April 2011. The Hamilton Anxiety and Depression Rating Scales and Depression Anxiety and Stress Scales (DASS-42) were used, and a questionnaire form designed by the author applied.

**Results.** Analysis showed that the time of abstinence was the longest in the group of gambling addicts, while it was the shortest among patients addicted to alcohol. Examination by means of the DASS-42 Scale confirmed the presence of depression in 71.05% of patients in Group I - patients addicted to alcohol; 87.10% in Group II - patients addicted to alcohol concomitant with gambling, and 75% in Group III - patients addicted to gambling only.

Anxiety disorders were observed in 81.58% of patients in Group I, 64.52% in Group II, and 53.13% in Group III. The results obtained in the Hamilton Depression Rating Scale showed that depression occurred in 60.53% of patients in Group I, 74.19% in Group II, and 78.12% in Group III, whereas anxiety was noted in 23.68% of respondents in Group I, 41.94% in Group II, and 28.12% in Group III.

**Conclusions.** It was concluded that depression occurred most frequently in the group of patients addicted to gambling, where the time of abstinence was the longest; both depression and anxiety disorders occurred most rarely in the group of patients addicted to alcohol, where the time of abstinence was the shortest; and anxiety disorders were most frequently observed in the case of concomitant alcohol and gambling dependence, or addiction to gambling only.

## Key words

anxiety, depression, abstinence

## INTRODUCTION

Addictions are mental disorders widely prevalent worldwide. Apart from addiction to psychoactive substances, e.g. nicotine, alcohol, and narcotics, which have been dominant until recently, increasingly more often there occur activity addictions, e.g. gambling, the Internet, shopping, or sex, which are the focus of the presented study [1]. To-date, several reports have documented the co-occurrence of mental disorders and addictions [2]. Also, concomitant mental disorders may contribute to the persistence of problems associated with addictions.

Individuals who seek specialist assistance possess high rates of abuse or addiction to various psychoactive substances. Gambling addicts, for whom psychoactive substances abuse is not a current problem, but had been a serious problem in the past, seek help most often. Gambling addicts considerably more rarely ask for assistance. Even cigarette smoking

seems to exert a significant effect on the intensification of psychosocial problems in gambling addicts. The analysis by Ladd, Petry [3] showed that smokers had more serious problems with gambling, and more family and psychiatric problems, compared to those who were non-smokers. Smokers more frequently consumed psychiatric drugs and experienced psychiatric symptoms, especially anxiety.

Knowledge about the mutual time relationships between the onset of problems with gambling and abuse of psychoactive substances is scarce. Cho et al. [4] showed that in Korea problems with alcohol preceded problems with gambling in the majority of males addicted to alcohol and gambling. In turn, Hall [5] reported that gambling preceded addiction to cocaine in 72% of individuals in the examined group addicted to this narcotic. Cunningham-Williams et al. [6] confirmed that the majority of pathological gambling addicts began cigarette or cannabis smoking and alcohol consumption before the occurrence of problems with gambling; nevertheless, pathological gambling frequently preceded addiction to other agents, especially stimulants.

Pathological gambling and abuse of psychoactive substances show a high rate of co-occurrence. A study

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on healthy volunteers showed that alcohol, by reducing resistance, facilitates the start and continuation of the game, prolongs gambling episodes and increases the amount of resources designed for the game. Thus, the use of psychoactive substances while gambling may disturb judgment and lead to the increase of problems in one or both areas [7].

The objective of the study was evaluation of the occurrence of depression and anxiety in 3 groups of patients: addicted to alcohol, gambling, and both alcohol and gambling, according to the duration of abstinence.

## MATERIALS AND METHODS

The study was carried out during the period from November 2010 – April 2011 in a group of 101 individuals – 38 alcohol addicts, 31 gambling addicts, and 32 patients addicted to alcohol and gambling. All patients satisfied the ICD-10 criteria for alcohol addiction and pathological gambling, were members of the Gambling Addicts Anonymous fellowship in Lublin, and were provided with treatment in the 24-Hour Ward for Alcohol Abuse Treatment, also in Lublin. The mean age in the group of patients addicted to alcohol was 44.63, in the group of gambling addicts – 36.63, and among those addicted to alcohol concomitant with gambling – 39.42. In the group of alcohol addicts there were 89.74% of males, and only 10.53% of females, while among gambling-dependent patients – 78.13% of males and 21.87% of females. In the group of patients addicted to alcohol and gambling there were 100% of males. The respondents in each group were most often in a relationship: among alcohol addicts – 55.26%, among alcohol and gambling addicts – 41.94%, and among those dependent on gambling – 65.63%. Based on a statistical analysis it was observed that the period of abstinence was the longest in the group of gambling-dependent patients – 19.25 weeks, while it was the shortest in the group of those addicted to alcohol – 7.32 weeks, and among patients addicted to both alcohol and gambling – 11.13 weeks. As many as 94.74% of alcohol-dependent respondents participated in therapy, 86.11% of them in therapeutic groups, 75.00% of gambling-dependent patients participated in therapy, 83.33% of them in self-support groups, and 61.2% of respondents addicted to both alcohol and gambling participated in therapy – 63.16% in self-support groups.

The Hamilton Anxiety and Depression Scales, and Depression Anxiety and Stress Scales (DASS-42) were used in the study. Socio-demographic data was collected by means of a questionnaire form designed by the author, and the results of the study obtained were subjected to statistical analysis. The values of measurable parameters were presented by the mean value and standard deviation, whereas for non-measurable parameters – by means of abundance and percentage. For measurable characteristics, the normality of distribution of the parameters analyzed was assessed with the use of Shapiro-Wilk test. In order to compare more than 2 independent groups, Kruskal-Wallis test was applied. For qualitative variables the significance of differences between the 2 groups were assessed by means of the Chi<sup>2</sup> independence test.

The p values  $p < 0.05$  were considered statistically significant. The database and statistical analyses were performed with the use of computer software STATISTICA 9.0 (StatSoft, Poland).

## RESULTS

Initially, the period of abstinence was analyzed in individual groups. Based on the results of statistical analysis, it was confirmed that the period of abstinence was the longest in the group of respondents addicted to gambling, compared to those addicted to gambling concomitant with alcohol, or alcohol only. The time of abstinence was the shortest among alcohol addicts. Statistical analysis indicated significant differences between groups during abstinence ( $p = 0.04$ ) (Table 1).

**Table 1.** Mean duration of abstinence in the groups examined

Group	Duration of abstinence (weeks)			
	mean	st. dev.	min.	max.
I – patients addicted to alcohol	7.32	16.13	1.00	96.00
II – patients addicted to alcohol concomitant with gambling	11.13	31.32	0.00	168.00
III – patients addicted to gambling only	19.25	44.44	0.00	240.00

Statistical analysis:  $H = 6.45$ ;  $p = 0.04^*$   
\*  $p < 0.05$

The subsequent stage of the study was analysis of the results obtained with the use of the DASS-42 scale and Hamilton Anxiety and Depression Scales. Analysis of patients with the use of the DASS-42 scale showed that depression occurred in Group I – in 71.05% of patients, Group II – in 87.10%, while in Group III – in 75%. Analysis of anxiety disorders showed that these disorders concerned 81.58% of patients in Group I, 64.52% in Group II, and 53.13% in Group III.

**Table 2.** Results obtained based on DASS scale

GROUP	DEPRESSION	NORMAL	ANXIETY	NORMAL
I – patients addicted to alcohol	71.05%	28.95%	81.58%	18.42%
II – patients addicted to alcohol concomitant with gambling	87.10%	12.90%	64.52%	35.48%
III – patients addicted to gambling only	75%	25%	53.13%	46.87%

Statistical analysis:  $\chi^2 = 6.47$       Statistical analysis:  $\chi^2 = 7.31$

Results obtained with the use of the Hamilton Depression Scale show that depression was noted in 60.53% of patients in Group I, 74.19% – in Group II, and in 78.12% – in Group III.

According to the Hamilton Anxiety Scale, anxiety disorders were observed in 23.68% in Group I, 41.94% in Group II, and in 28.12% in Group III (Table 3).

**Table 3.** Results obtained based on Hamilton Depression and Anxiety Scales

GROUP	DEPRESSION	NORMAL	ANXIETY	NORMAL
I – patients addicted to alcohol	60.53%	39.47%	23.68%	76.32%
II – patients addicted to alcohol concomitant with gambling	74.19%	25.81%	41.94%	58.06%
III – patients addicted to gambling only	78.12%	21.88%	28.12%	71.88%

Statistical analysis:  $\chi^2 = 2.90$       Statistical analysis:  $\chi^2 = 2.82$

## DISCUSSION

To-date, many reports have been published concerning the co-occurrence of alcohol addiction, and pathological gambling and depressive disorders [2]. The majority of these reports confirm the existence of a strong relationship between the co-occurrence of the above-mentioned disorders; however, there is a lack of reports concerning the intensity of these disorders.

A survey carried out in Edmonton, Canada [8], which covered 7,214 adults, confirmed that in pathological gamblers mood disorders were 2.3 times more frequent, and anxiety disorders 2.9 more frequently observed. In this study, the occurrence of severe depression did not differ between the group of pathological gamblers and the remaining part of the study group [8]. Similarly, a survey conducted in by Omaha, Nebraska [9], USA, with the use of a Brief Depression Scale, did not reveal any correlation between depressive symptoms and pathological gambling [2].

Professionals engaged in work with patients addicted to both psychoactive substances and activity-addicted are convinced that the longer the time of abstinence, the more rarely occurs depression or anxiety.

The results of the presented study indicate that in the group of patients with the shortest period of abstinence, addicted to alcohol, both depression and anxiety disorders occur most rarely. These results are surprising, also considering the fact that alcohol, when chronically abused, causes anxiety and depression.

In the group of gambling-dependent patients, where the period of abstinence was the longest, depressive disorders were most frequently noted. Patients in this group, despite maintaining abstinence, for a very long time bear financial and life consequences, which may favour the development of depression.

The results obtained show that depression and anxiety disorders occur in a large group of addicted patients, irrespective of the period of abstinence.

## CONCLUSIONS

1. Depression occurred most frequently in the group of patients addicted to gambling, where the time of abstinence was the longest.
2. Both depression and anxiety disorders were most rarely observed in the group of patients addicted to alcohol, where the time of abstinence was the shortest.
3. Anxiety disorders were most frequently observed in the case of concomitant alcohol and gambling dependence or addiction to gambling only.

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