COMORBID GAMBLING IN PERSONS SUFFERING FROM ALCOHOL DEPENDENCE

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ABSTRACT

BACKGROUND

Gambling has been a part of human behaviour since prehistory. Past global studies show that rates of pathologic gambling are 4 to 10 times higher for substance abusers than for the general population. Alcohol dependence is also more common among parents of pathologic gamblers. Studies from India have been very few on this subject.

OBJECTIVES

The objectives were to analyse the prevalence of gambling behaviour in alcohol dependent individuals, to assess whether alcohol influence had effect on gambling behaviour, to analyse if gambling behaviour was associated with personality traits, to explore the possibility whether alcohol use & gambling behaviour in parents had influence on the gamblers.

METHODS

A sample of 100 consecutive male patients attending de-addiction OPD of a Government Tertiary Care Hospital in Chennai was selected. Those who had a diagnosis of alcohol dependence were screened for gambling and assessed using the South Oaks Gambling Screen (SOGS) and Eysenck's Personality Questionnaire. History of gambling behaviour and alcohol use in parents were correlated.

RESULTS

A high incidence of gambling related problems in alcohol dependent individuals was found. Among them, 24% had gambling related problems, of which 11% amounted to pathologic gambling. Age, Marital status, Residential locality, Economic status, Educational levels, or being under the influence of alcohol did not correlate with the gambling behaviour. Extrovert personality, alcohol dependence in father, and family history of gambling were more common in problem/pathologic gamblers.

KEYWORDS

Pathological Gambling, Alcohol Dependence, Personality Traits.

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INTRODUCTION: Gambling in one form or another has been a part of human behaviour since prehistory. Records of games of chance and related artefacts have been discovered among the ancient cities from 3000 BC, Fleming AM 1978.[(1)] The Mahabharata, for example, tells the story of how a fair and wise king was brought low by his own fault, his addiction to gambling. He gambles away his wealth, his kingdom, his brothers and himself (in to slavery), and finally his wife. The prevalence studies by Shaffer HJ et al 2002[(2)] from the United States have reported rates between 1% and 2% for pathologic gambling and additional 2% to 4% for problem gamblers who do not meet the criteria for pathologic gambling. Positive association between alcohol and gambling pathology has been reported by Welte J et al 2001 and Sadock BJ et al 2003.[(3,4)]

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Studies conducted at addiction treatment sites report rates of pathologic gambling 4 to 10 times higher for substance abusers than for the general population (Spunt B et al 1998).[(5)] Telephonic surveys done by Welte J et al 2001 and Feigelman W et al 1998[(3,6)] and a household survey done by Cunningham-Williams RM et al 1998[(7)] have replicated the association between pathologic gambling and substance use disorders. Epidemiological and genetic data show that pathologic gambling runs in families and is highly associated with alcoholism (Welte J et al 2001, Slutske WS et al 2000).[(3,8)] Alcohol dependence is also more common among parents of pathologic gamblers (Sadock BJ et al 2003).[(4)] According to Tavares H et al 2001, Potenza MN et al 2001 and Martins SS et al 2002[(9-11)] women are said to show faster progression of the disease and higher comorbidity with anxiety and depression.

Women are also said to report gambling to "Escape" from psychological distress (Lesieur HR et al 1991).[(12)] There have been only a few Indian studies so far on this subject. In this study, we have attempted to screen alcohol dependent patients attending de-addiction OPD for gambling behaviour, to analyse the prevalence of gambling behaviour in alcohol dependent individuals attending

de-addiction clinics, to assess whether alcohol influence had effect on gambling behaviour, to analyse if gambling behaviour was associated with personality traits of the individuals and to explore the possibility whether alcohol use & gambling behaviour in parents has influenced the gamblers.

METHODS: The study was carried out in a Government Tertiary Care Hospital in Chennai. 100 consecutive male patients, who had a history of alcohol dependence satisfying ICD-10 criteria, attending the de-addiction OPD were selected for the study. The study was conducted between January 2005 and March 2005. Patients who had other substance use except nicotine, those having an organic condition, those below the age of 18 years and those whose current mental state prevented them from giving relevant details (E.g. intoxication and withdrawal) were excluded. The individuals were approached with no knowledge of whether they had history of gambling behaviour. Informed consent was obtained from each individual before they participated in the study.

Measures: **Semi-structured Proforma**: The individuals were administered the semi-structured proforma which included the socio-demographic data, economic status, educational status, and family history of alcohol use and gambling.

Eysenck's Personality Questionnaire (EPQ).[13]:
Eysenck Personality Questionnaire (EPQ) is a questionnaire to assess the personality traits of a person, with the result sometimes referred to as the Eysenck's Personality Inventory. The Eysenck Personality Inventory (EPI) measures two pervasive, independent dimensions of personality, Extraversion-Introversion and Neuroticism-Stability which account for most of the variance in the personality domain. This also contains lie score. This has been widely used in English speaking countries. In India, it has undergone few revisions and standardisations.

South Oaks Gambling Screen (SOGS) was used for assessing their gambling behaviour.[14] The subjects were then questioned on any form of gambling in the past. Those found positive were administered the South Oaks Gambling Screen (SOGS). South Oaks Gambling Screen (SOGS) was developed by Henry Lesieur, Ph.D., and Sheila Blume, M.D., as a screen for compulsive gambling. The South Oaks Gambling Screen is a 20-item questionnaire for pathological gambling. The individuals were further questioned on whether their gambling behaviour was under the influence of alcohol. The scales were applied at the time of the study to analyse their personality and gambling behaviour.

RESULTS:
Demographic Details:

Variable	Range/Value	
Age	21–26 years (n=100) mean=41.14 years, S.D.= 8.067	
Marital Status	Married=88 (88%) Unmarried=12 (12%)	P=0.726
Socioeconomic Status	Lower=32 (32%) Middle=66(66%) Upper=2 (2%)	P=0.835
Residential Location	Urban=71 (71%) Semi-urban=14 (14%) Rural=15 (15%)	P=0.726
Education	<7th grade=44 (44%) 7th to 10th grades= 38 (38%) Higher secondary= 8 (8%) Graduation=10 (10%)	P=0.583
Family History of Gambling	Present=18 (18%) Absent=82 (82%)	
Alcohol Dependence in Father	Present=49 (49%) Absent=51 (51%)	
History of Gambling in Father	Present=27 (27%) Absent=73 (73%)	

Table 1: Shows the Demographic Details of the Participants

The p value was 0.583 which was not statistically significant for the different educational level groups. Similarly, difference between different marital groups (P=0.726), different residential location groups (P=0.726) and different economic status groups (P=0.835) was not statistically significant.

Type of Gambling Event	No. (%)
Playing Cards	18 (18%)
Lottery	10 (10%)
Local Dice	6 (6%)
Carom	5 (5%)
Horse Racing	3 (3%)
Video games	1 (1%)
Poker Machine	1 (1%)

Table 2: The Distribution of Different Types of Gambling Events

SOGS was administered to those who gave history of gambling, based on which the following results were obtained.

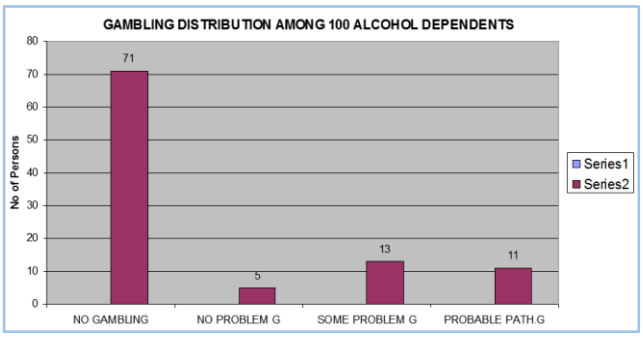

Fig. 1: Distribution of Gambling Behaviour Severity

The above graph (Figure 1) depicts the distribution of gambling behaviour severity based on SOGS among those interviewed (n=100).

No gambling behaviour – 71(71%).
No problem with gambling behaviour – 5(5%).
Some problems with gambling – 13(13%).
Probable pathological gambler – 11(11%).

It was found that 29% (29 out of 100) of the alcohol dependent individuals had gambled. Among them few, 17.24% (5 out of 29) were only able to restrict their gambling without having any problems, while majority, 82.76% (24 out of 29) had problems with gambling. Among those with gambling behaviour, 44.83% had some problems with gambling while 37.93% were probable pathological gamblers, which is 11% of total alcohol dependent individuals.

Age Group (Years)	No Gambling	No Problem Gambling	Some Problem Gambling	Probable Pathologic Gambling	Total
20–30	8	1	2	1	12
31–40	32	2	4	5	43
41–50	23	1	5	6	35
>50	8	1	0	1	10
Total	**71**	**5**	**11**	**13**	**100**

Table 3: Analysing Gambling Pattern among Different Age Groups

	Value	df	P- Value	Significance
Pearson Chi-Square	4.154	9	0.901	Not Significant

The p value (Pearson Chi-Square) was 0.901 which was not statistically significant for the different age groups on considering the sample as three broad categories- alcohol dependent individuals with no gambling, alcohol dependent individuals with gambling but no problems and alcohol dependent individuals with some problem gambling and probable pathological gambling (Figure 2, Table 1).

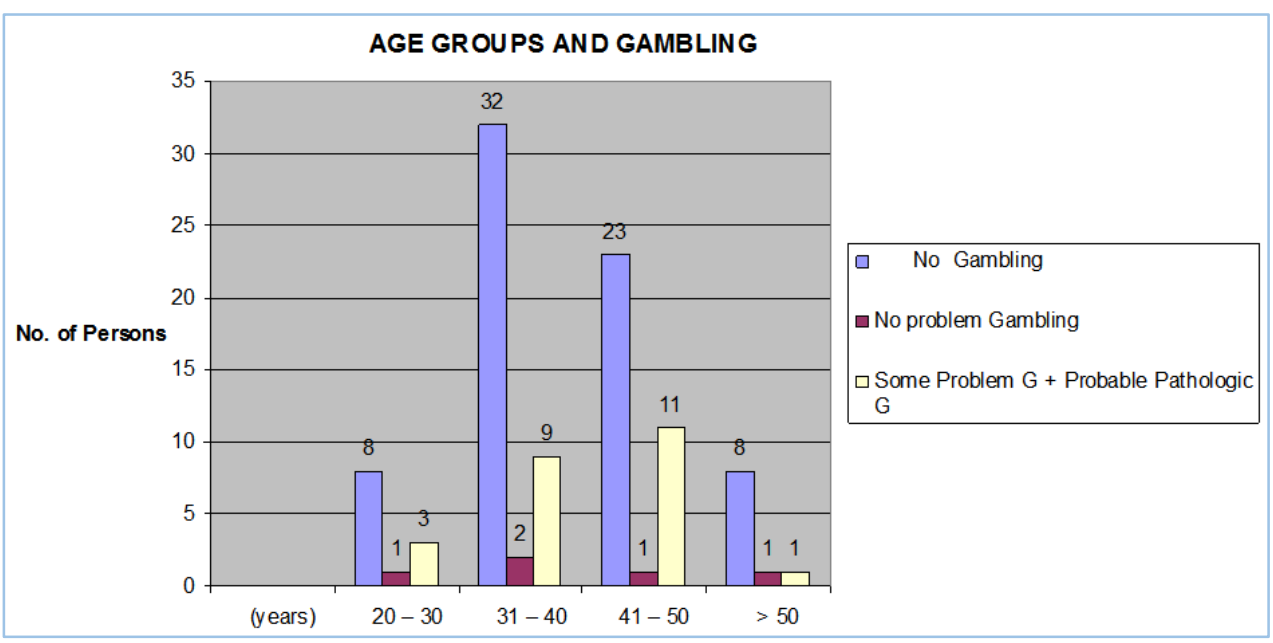

Fig. 2: Analysing Gambling Behaviour in Different Age Groups in Above Categories

Age Group (Years)	No Gambling	No Problem Gambling	Some Problem G + Probable Pathologic G	Total
20 – 30	8	1	3	12
31 – 40	32	2	9	43
41 – 50	23	1	11	35
> 50	8	1	1	10
Total	**71**	**5**	**24**	**100**

Table 4: Gambling Behaviour in Various Age Groups

	Value	df	P- Value	Significance
Pearson Chi-Square	3.248	6	0.777	Not Significant

The p value (Pearson Chi-Square) was 0.777 which was not statistically significant for the different age groups. There was no significant correlation between different age groups and problems with gambling.

Personality	No Gambling	No Problem Gambling	Some Problem G + Probable Pathologic G	Total
Normal	56	3	13	72
Introversion	4	1	0	5
Extroversion	4	1	11	16
Psychotic	3	0	0	3
Neuroticism	2	0	0	2
Extroversion + Neuroticism	2	0	0	2
Total	**71**	**5**	**24**	**100**

Table 5: Analysing Gambling Behaviour with Personality Traits

	Value	df	P- Value	Significance
Pearson Chi-Square	26.161	10	0.004	Significant

The p value (Pearson Chi-Square) was 0.004 which was statistically significant for the different groups. Those with problem gambling and probable pathologic gambling were more likely to be associated with extrovert personality trait. The association was significant.

Parental Alcohol Dependence	No Gambling	No problem Gambling	Some Problem G + Probable Pathologic G	Total
Not present	44	1	6	51
Present	27	4	18	49
Total	**71**	**5**	**24**	**100**

Table 6: Analysing Gambling Behaviour with Parental Alcohol Dependence

	Value	df	P- Value	Significance
Pearson Chi-Square	11.835	2	0.003	Significant

The p value (Pearson Chi-Square) was 0.003 which was statistically significant for the different groups.

Parental Alcohol Dependence	Some Problem Gambling	Probable Pathologic Gambling	Total
Not present	6	0	6
Present	7	11	18
Total	**13**	**11**	**24**

Table 7: Analysing the Problem Gambling Sub-Groups

	Value	df	P- Value	Significance
Pearson Chi-Square	6.769	1	0.009	Significant

The p value (Pearson Chi-Square) was 0.009 which was statistically significant for the different groups.

Family History of Gambling	No Gambling	No Problem Gambling	Some Problem + Probable Pathologic Gambling	Total
Not present	69	2	11	51
Present	2	3	13	49
Total	**71**	**5**	**24**	**100**

Table 8: Analysing Gambling Behaviour with Family History of Gambling

	Value	df	P- Value	Significance
Pearson Chi-Square	38.333	2	<0.01	Significant

The p value (Pearson Chi-Square) was <0.01 which was statistically significant for the different groups. Problem and Pathologic gambling had significant correlation with gambling behaviour in family.

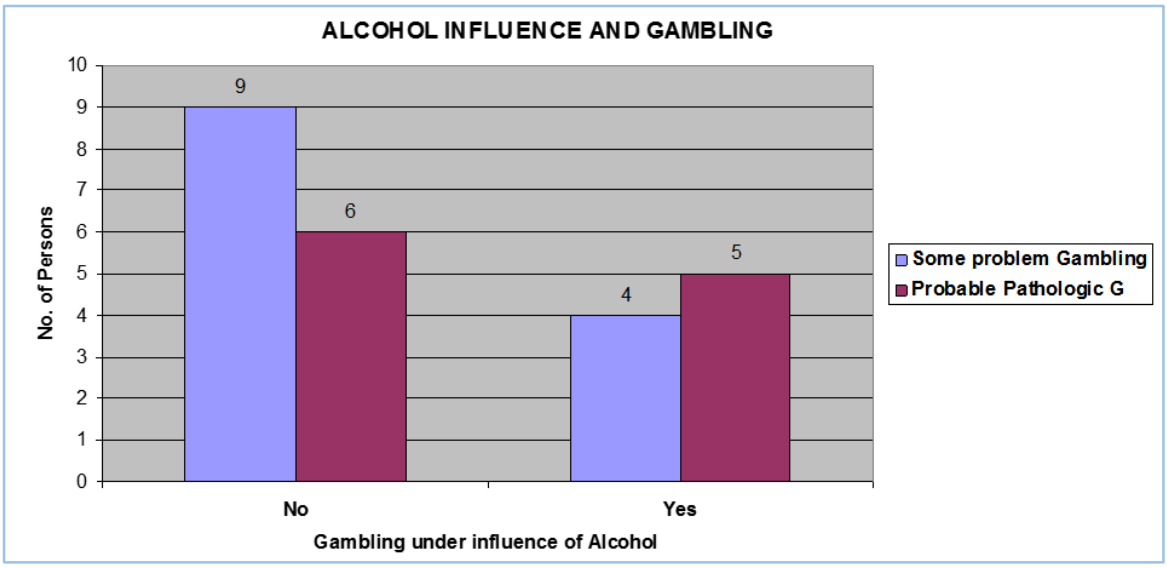

Fig. 3: Analysing the Influence of Alcohol on Gambling Behaviour

Gambling under Alcohol influence	Some Problem Gambling	Probable Pathologic Gambling	Total
No	9	6	15
Yes	4	5	9
Total	**13**	**11**	**24**

Table 9: Alcohol Influence on Gambling Behaviour

	Value	df	P- Value	Significance
Pearson Chi-Square	0.548	1	0.459	Not Significant

The p value (Pearson Chi-Square) was 0.459 which was statistically not significant for the different groups. Alcohol dependent people thought to have higher problems with gambling show no significant correlation between their alcohol influence states with the gambling behaviour.

DISCUSSION: High incidence of gambling related problems was found in alcohol dependent individuals. Nearly 24% of alcohol dependent individuals attending the de-addiction OPD had gambling related problems. Playing cards was the commonest type, followed by Lottery, Local Dice, and Carom. There was 11% pathologic gambling identified among alcohol dependent individuals. Our finding of problem and pathologic gamblers in alcohol dependent individuals is similar to that of other studies done by Welte J et al 2001, Spunt B et al 1998, Feigelman W et al 1998 and Cunningham-Williams RM et al 1998.[3,5,6,7]

Age, Marital status, Residential locality, Economic status, or Educational levels do not seem to influence the gambling behaviour of alcohol dependent individuals. We did not find any statistically significant association between age and gambling behaviour, which is contrary to the findings of Lippincott et al[15] where positive relationships between gambling behaviour and younger age was noted. Similarly, positive relationships between gambling behaviour and old age was noted by Gerstein D et al 1999.[16] Extrovert personalities are more prone for gambling related problems.

According to Potenza MN et al 2001(10) and Gerstein D et al 1999[16] loneliness (single, divorced, or separated) was implicated as an associated factor for gambling risk and the proportion of non-married subjects is higher among pathologic gamblers. This was not found in our study. Alcohol dependence was found to be more common among the parents of pathologic gamblers in our study.

This finding of ours was consistent with the standard literature Sadock BJ et al 2003[4] Problem and pathologic gamblers were more from families which had a history of gambling. This finding of ours was also similar to some of the previous studies Welte J et al 2001, Sadock BJ et al 2003, Slutske WS et al 200[3,4,8] Most of those who had gambling problems did not indulge in the habit under the influence of alcohol. Alcohol dependence and Gambling have greater degree of association, whether they share common genetic vulnerability needs to be explored. The relationship between Alcohol dependence and Gambling may be bi-directional, in the sense that Alcohol dependence may influence Gambling or contrariwise. Even though Anti-social personality traits have been widely studied among alcohol dependents, literature on association between personality traits and Gambling has been few.

An association between Extrovert personality and Gambling has been found in our study, which has opened up avenues for a more detailed and specific directions for assessment of Personality profile in Gamblers. A common genetic inheritance, a bi-directional association and an exclusive personality trait may be important issues while addressing Alcohol dependent patients with comorbid Gambling. Also, with the advent of Internet, the next few years may witness an explosion of Internet gambling, which might require government regulation, although, for now, it is not clear how best to assure fairness of games and how to make game operators accountable (Volberg RA 1996).[17]

LIMITATIONS: Substance abuse other than alcohol was not considered in this study. Females have been excluded from the study, since in South Indian culture rarely females drink alcohol or gamble. No control group was recruited for this study. Personality assessment was retrospective, so may be controversial.

CONCLUSION: Alcohol dependence and Gambling have a greater degree of association. Screening for gambling related problems in alcohol dependent individuals is necessary. Apart from alcohol, association with other substances needs to be studied in future. Moreover, with the advent of Internet, the next few years may witness an explosion of Internet gambling, which might require government regulation, although, for now, it is not clear how best to assure fairness of games and how to make game operators accountable.

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