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Drinking Parameters and Associated Factors among Alcoholics Attending De-Addiction Center at a Tertiary Care Hospital, Jaipur

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ABSTRACT

Introduction: Alcohol addiction is influenced by factors like started drinking at early age, positive family history, impulsivity, hyperactivity. Objective of the study was to assess drinking parameters and associated factors among alcohol addicts attending De-addiction center.

Methods: This observational study was conducted during 1st June 2015 to 31st May 2016. Total 400 cases with an AUDIT score of >8 were included. Information like duration of drinking, amount of drink, type of alcohol consumed, motivating factors for seeking de addiction centre, previous treatment history were collected.

Results: Half of alcoholics started drinking at very young age (<26 years). Majority were Hindu and one fourth cases had primary education and one fourth was literate up to higher secondary. Half of cases were daily wages and majority were from SES class III & IV. Only 16% had positive family history. Majority (80%) consumed more than 3 to 6 quarter of alcohol daily. Majority (79%) consumed "Desi" alcohol.

Conclusion: When alcohol is started late then the amount of alcohol consumed is less. Per capita income has a negative 18.2% change in amount of alcohol. Age of starting consumption of alcohol also made a significant contribution to predict type of alcohol consumed.

Key words: Alcohol addiction, drinking parameter, factors, Jaipur

INTRODUCTION

Alcohol addiction is a pattern of compulsive and uncontrolled consumption of alcohol, affecting drinker's health, personal relationship and social standing. It is a complex phenomenon that is influenced by social, economic, political, and psychosocial factors [1]. It is a result of interaction between individual, community and drug [2]. Recently, over two decades the consumption of alcohol in India has increased by 106% as against many countries where the consumption of alcohol declined[3]. Data from different Indian states indicate that 35% to 65% of all current drinkers meet criteria for hazardous alcohol use[4]. In National Household Survey of Alcohol and Drug Abuse (2003) 21.4% were reported to be current users of alcohol (used in last 30 days)[5]. Health problems for which alcohol is responsible are only part of the social damage, which includes family disorganization, crime, and loss of productivity[6]. Alcohol is also considered as a risk-factor for traffic injuries as well as high-risk sexual behavior leading to sexually transmitted diseases.

The problem of alcohol addiction is further accentuated by combined effects of globalization, market forces, changing government policies, media promotion and also changing values of Indian society[7].The age & sex pattern of alcohol consumption has changed widely in India in recent years, younger age group and female are now increasingly inclined towards alcohol drinking. Factors like started drinking at early age, positive family history of alcoholism, impulsivity, hyperactivity, are associated with addiction[8].

Current study was conducted with an objective to assess drinking parameters and their associated factors among alcohol addicts attending De-addiction center of SMS Medical College, Jaipur.

MATERIAL AND METHODS

This hospital based observational Study was conducted at de-addiction centre, Department of Psychiatry of S.M.S. Hospital, Jaipur during 1st June 2015 to 31May 2016. Institutional Ethical committee approval was taken before starting the study. Sample size calculated were 400 cases at 95% confidence level and at 10% relative allowable error keeping maximum variance (50%) for a descriptive study. Those who are in the age group of 18-60 years with an AUDIT score of >8 and who have given consent were included in the study. AUDIT (Alcohol Use Disorders Identification Test) was used to assess the addiction. It was developed by the World Health Organization (WHO). Data regarding other dirking parameters like duration of drinking, amount of drink per day, type of alcohol consumed, motivating factors for seeking de addiction centre, previous treatment history were also collected on a pre tested validated Performa developed by three faculties of CommunityMedicine of SMS medical college, Jaipur.

RESULTS

According to table 1 almost half (45%, 180/400) of alcoholics started drinking alcohol at very young age< 26 years. Only 11.25% (45/400) cases started after 45 years of age. Majority (85.50%) were Hindu. One fourth of cases had primary education only and 25% were literate up to higher secondary. Half of cases were daily wages and majority (61.75%) were from SES class III & IV poor people. Only 16% had one of more family member also alcoholic addict. On bi-variate analysis age of development of addiction was significantly associated with age of starting alcohol, occupation and family history for alcohol addiction. Multivariate analysis was also done for predicting age of development of addiction onthe basis of education level, age of starting alcohol, per capita income, occupation, family history by Linear Regression. Using the Enter method, a significant model ($F_{3,395}$ = 205.90, p = 0.000, Adjusted R^2 =0.606) was found.

Table 1: Association of age of addiction with socio-demographic profile

Socio-demographic Characteristics	Age of addiction (years)					P value
	<26 (n=180)	26-35 (n=163)	36-45 (n=53)	>45 (n=4)	Total (n=400)	
Age of starting alcohol (yrs)						
<16	19	0	1	0	20	0.000
16-20	115	25	4	0	144	
21-30	46	135	27	3	211	
30<	0	3	21	1	25	
Religion						
Hindu	155	145	51	3	354	0.119
Muslim	24	15	1	1	41	
Sikh	0	3	0	0	3	
Others	1	0	1	0	2	
Education						
Illiterate	9	3	4	1	17	0.235
< 5th class	53	40	13	2	108	
6th - 10th class	45	36	14	0	95	
11th to 12th class	48	49	14	1	112	
>12th class	25	35	8	0	68	
Occupation						
Un employed	10	5	9	3	27	0.000
Daily wage	119	98	20	1	238	
Self employed	9	16	2	0	27	
Salaried employed	19	16	8	0	43	
Farm owner	9	9	8	0	26	
Shop owner	14	19	6	0	39	
SES Class						
I	14	21	7	0	42	0.665
II	42	42	9	0	93	
III	60	54	21	3	138	
IV	55	39	14	1	109	
V	9	7	2	0	18	
Family History						
No	143	138	51	4	336	0.030
Yes	37	25	2	0	64	

Significant variable:- (Coefficients)

Model 1	Un standardized Coefficients		Standardized Coefficients (Beta)	t	Sig.
	B	Std. Error			
(Constant)	6.385	.422		15.136	.000
age of starting alcohol	-.037	.015	-.123	-2.500	.013
occupation	.069	.059	.061	1.173	.242
per capita income	.000	.000	-.182	-3.318	.001
education level	-.022	.077	-.016	-.285	.776

Table 2: Association of Amount of alcohol consumption with socio-demographic profile

Socio-Demographic Profile	Amount of daily alcohol consumption				P value
	180-540ml (1-3 quarter) (n=26)	540-1080ml (>3-6 quarters) (n=330)	>1080ml (>6 quarters) (n=44)	Grand Total (n=400)	
Age of starting alcohol (yrs)					
<16	0	18	2	20	0.046
16-20	5	120	19	144	
21-30	16	173	22	211	
30<	5	19	1	25	
Education					
Illiterate	1	11	5	17	0.000
< 5th class	3	99	6	108	
6th - 10th class	4	83	8	95	
11th to 12th class	7	84	21	112	
>12th class	11	53	4	68	
Religion					
Hindu	23	293	38	354	0.071
Muslim	1	34	6	41	
Sikh	1	2	0	3	
Others	1	1	0	2	
Occupation					
Un employed	1	24	2	27	0.000
Daily wage	10	204	24	238	
Self employed	7	18	2	27	
Salaried employed	7	29	7	43	
Farm owner	0	21	5	26	
Shop owner	1	34	4	39	
SES Class					
I	13	24	5	42	0.000
II	4	83	6	93	
III	7	117	14	138	
IV	2	93	14	109	
V	0	13	5	18	
Family History					
No	21	280	35	336	0.598
Yes	5	50	9	64	

Level of education and per capita income are not significant predictor in this model. Age of starting consumption of alcohol has a positive 77.6% change in age of addiction. When alcohol is started early then the person gets addicted at early age. Around 60.6% of change in age of addiction was contributed by all predictors in this model (as adjusted R^2 is 0.606)

Table 2: Majority (82.50%) of alcoholics consumed more then 3 to 6 quarter of alcohol per day. On bivariate analysis age of starting alcohol, education level, occupationand SES are significantly associated with it. Multivariate analysis was also done for prediction of amount of alcohol consumed the amount of alcohol consumed was predicted on the basis of education level, age of starting alcohol, occupation, per capita income by Linear Regression Using the Enter method, a significant model ($F_{4,395}$ = 4.939, p = 0.001, Adjusted R^2 =0.038) was found.

Type of occupation and level of education are not significant predictors in this model. Age of starting consumption of alcohol has a negative 12.3% change in amount of alcohol. When alcohol is started late then the amount of alcohol consumed is less. Per capita income has a negative 18.2% change in amount of alcohol. As income increases, the amount of alcohol consumed is less. Only 3.8% of change in amount of alcohol consumed is contributed by all predictors in this model (as adjusted R^2 is 0.038)

Table 3: Relation of Type of Alcohol Consumption and Socio-Demographic profile

Socio-Demographic profile	Type of Alcohol Consumption			P value
	Whiskey & Rum (n=84)	locally prepared (Desi) (n=316)	Total (n=400)	
Age of starting alcohol (yrs)				
<16	3	17	20	0.064
16-20	32	112	144	
21-30	40	171	211	
30<	9	16	25	
Education				
Illiterate	4	13	17	0.401
< 5th class	26	82	108	
6th - 10th class	16	79	95	
11th to 12th class	23	89	112	
>12th class	15	53	68	
Religion				
Hindu	77	277	354	0.482
Muslim	5	36	41	
Sikh	1	2	3	
Others	1	1	2	
Occupation				
Un employed	5	22	27	0.000
Daily wage	22	216	238	
Self employed	19	8	27	
Salaried employed	23	20	43	
Farm owner	3	23	26	
Shop owner	12	27	39	
SES Class				
I	29	13	42	0.000
II	23	70	93	
III	25	113	138	
IV	7	102	109	
V	0	18	18	
Family history				
No	75	261	336	0.282
Yes	9	55	64	

Table 3: Majority (79%) of alcoholics consumed "Desi" (locally prepared) alcohol. Education, occupation and SES are significantly associated with type of alcohol consumed.

Multivariate analysis was also done for prediction of type of alcohol consumed (Desi Vs English) on the basis of independent factors like age of starting consumption of alcohol, positive family history, per capita Income, and level of education as predictors using logistic regression analysis. A test of the full model was statistically significant indicating that the predictors as a set reliably distinguish between the locally prepared (Desi) and standard alcohol (English). Also the Hosmer & Lemeshow test shows a good fit by high p value (0.229) and low chi-square value (9.389) at df 8. Prediction success overall was 79%. The Wald criteria demonstrated that only age of starting consumption of alcohol (p =0.014) made a significant prediction contribution to predict type of alcohol consumed.

For predictor Age of starting consumption of alcohol: Exp. (B) value 1.063 indicates that when Age is raised by one unit then odd's ratio is 1.063 times as large and therefore person who started consuming alcohol late by one year are slightly (1.063 times) more likely to drink standard alcohol.

DISCUSSION

All most all alcoholic addicts observed in our study were male similar to study done by Prabhat Chand et al[9] (97%), Poornima Prabhu et al [10] (96%), B T Vignesh et al [11](100%), and Aditya Prasad Sarkar et al [12](99%). Majority addicts were in the productive age group of 26-35 years in our study. Vinitha C. Thilakan et al [13], Poornima Prabhu et al[10], and Aditya Prasad Sarkar et al [12]also observed the same. The finding of more then 90% of addicts were married in current study is similar to Prabhat Chand et al[9] (76%), B. T. Vignesh et al [11](90%), Aditya Prasad Sarkar et al [12](82%).72% of addicts in our study were from urban area while only 33% observed by B. T. Vignesh et al [11]and 52% by Sandeep Grover et al [14]. This is probably due to urban location of De-addiction center in our study. Majority (88%) were Hindu in our study similar to Risal A et al [15] (87%), Prabhat Chand et al[9](97%) though Vinitha C. Thilakan et al [13] , RumaDutta et al [16]and Sandeep Grover et al [14]observed very less Hindu addicts 20%, 25% and 46% respectively. Around half of addicts in our study were from

nuclear family much less or than B. T. Vignesh et al [11] (90%), Poornima Prabhu et al [10] (79%) only 4% of addicts were illiterate in our study, i.e much less than Aditya Prasad Sarkar et al [12] (46%), Sandeep Grover et al [14] (27%) and Poornima Prabhu et al [10] (16.5%).Though majority had education only up to 12th or below but very less (7%) was unemployed in our study. A very high proportion (23%) was observed by Poornima Prabhu et al [10].This is justified with the fact that we have counted only unemployed person while Poornima Prabhu et al [10] had counted all retired also as unemployed. We observed 85% addicts from SES II to IV and very less from V SES similar to Sandeep Grover et al [14](3%). We have observed that alcohol consumption was started at a very early age (23years) in our study similar to R. Chandrasekaran et al [17] (23years), Ruma Dutta et al [16] (20.5years), Risal A et al [15] (19-40 years) and Vinitha C. Thilakan et al [13] 20-25 years).The average age of addiction observed by our study was 27.6 years only similar to R. Chandrasekaran et al [17] (30 years) and Prabhat Chand et al[9] (25.9 years). We observed that around 10 years alcohol consumption leads to addiction in our study, that was much lower a duration that Vinitha C. Thilakan et al [13] (>15 years) and Prabhat Chand et al[9] (12.4 years). Addicts in our study consumed 950ml per day that is much higher than Sandeep Grover et al [14] (720ml).Family history of addiction was present in 16% in our study, much higher proportion was observed by R. Chandrasekaran et al [17] (67%), Prabhat Chand et al[9](46%), Sandeep Grover et al [14] (25%) and Aditya Prasad Sarkar et al [12] (73%). Around 8% of addicts in our study took treatment for de-addiction before also. D Ruma et al [16] also observed 4.5% such addicts.

CONCLUSION

In present study half of alcoholics started drinking alcohol at very young age < 26 years. Majority were Hindu and one fourth of cases had primary education and one fourth were literate up to higher secondary. Half of cases were daily wagers' and majority were from SES class III & IV poor people. Only 16% had one of more family member also alcoholic addict. Majority consumed more then 3 to 6 quarter of alcohol per day. Majority of alcoholics consumed "Desi" (locally prepared) alcohol.

Age of starting consumption of alcohol has a positive 77.6% change in age of addiction. Age of starting consumption of alcohol has a negative 12.3% change in amount of alcohol consumed daily. When alcohol is started late then the amount of alcohol consumed is less. Per capita income negatively associated with amount of alcohol. Age of starting consumption of alcohol is also a significant contributor to predict type of alcohol consumed.

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