Section: Community Medicine

Original Research Article

ALCOHOL CONSUMPTION AND ITS ADVERSE CONSEQUENCES AMONG ALCOHOLICS IN A RURAL AREA OF TAMILNADU – A COMMUNITY BASED COMPARATIVE CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Alcohol consumption is the world's third largest risk factor for disease and disability; in middle- income countries, it is the greatest risk. Alcohol is attributed to nearly 3.2% of all deaths and results in a loss of 4% of total DALYs. The aim & objective is to study the adverse consequences faced by the alcoholics; To compare the adverse consequences between the alcoholics and the non-alcoholics. **Materials and Methods:** This study was conducted in the Milaganoor village in south Tamilnadu with alcohol habit; all male with alcohol consuming habit above 13 years of age were included in the study and none were excluded from the study. The data was using a semi structured questionnaire. The data collected were consolidated and analyzed using SPSS software; Descriptive and Analytical statistics were used in the study. **Result:** In my study 37.7% of the alcoholics had health issues; 44.4% of the alcoholics had debts; 50% of the alcoholics were alcohol dependent; while seeing the history of hospital admission 27.7% of the alcoholics were admitted in hospital at least once; 33.3% of the alcoholics had psychiatric problems. When comparing the adverse consequences between alcoholics and non-alcoholics in which health issues among alcoholics accounted for 37.7% and among non-alcoholic it was only 16.6% and is statistically significant p value <0.05; on seeing the debts between two groups it was also statistically significant i.e. p value <0.05 ; dependency is found only with the alcoholics amounting for 50% of the alcoholics and it was found that none of the non-alcoholics had the dependency problems due to any other reasons also which is statistically significant p value of 0.001; Psychiatric problems were more among the alcoholics accounting for 33.3% whereas only 3.3% of the non-alcoholics had psychiatry problems; Domestic violence was seen in 38.8% of the families of alcoholics and only 5% of the non-alcoholics' family has experienced domestic violence which is statistical significant p value <0.05. **Conclusion:** It can be concluded that alcoholics face serious adverse consequences in various forms because of alcohol habit than the non-alcoholics without alcohol habit. Health education is the most required intervention to reduce the burden of alcohol use.

INTRODUCTION

Alcoholism is a social evil, and alcohol related morbidities and incidents even though significantly alarming are almost neglected by primary care physicians and policy makers. According to world health organization (WHO) - global burden of disease update, around 125 million people were affected worldwide by alcohol use disorders, 40.5 million peoples were moderately and severely disabled due to alcohol dependence and problem use and 19.9 million years lost due to disability due to alcohol use disorders.[1] The 2015 WHO fact sheet shows that 3.3 million deaths i.e. 5.9% of all deaths were due to harmful use of alcohol.[2] Alcohol consumption is the world's third largest risk factor for disease and disability; in middle- income countries, it is the greatest risk. Approximately 4.5% of the global burden of disease and injury is attributable to alcohol. Alcohol is the causal factor in 60 types of diseases and injuries and a component cause in 200 others. Alcohol is attributed to nearly 3.2% of all deaths and results in a loss of 4% of total DALYs. Alcoholism is one of the leading causes of death and disability in India. In India, the estimated numbers of alcohol users in 2005 were 62.5 million

with 17.4% of them being dependent users and 20-30% of hospital admissions are due to alcohol-related problems.[3] Although there are many studies on alcohol use in North India very few community-based studies have been conducted on the pattern of alcohol consumption and the factors influencing the habit of alcohol intake among the rural community of south India especially in rural part of Tamilnadu. This type of study will be useful for understanding the problem of alcohol use and also help in taking specific interventional measures at the community level. So I conducted a cross sectional study to study the pattern of alcohol use and to assess the factors influencing it rural Tamilnadu, southern India.

MATERIALS AND METHODS

Study Area and Design

This cross-sectional study was conducted in the Milaganoor panchayat of Manamadurai taluk which is located in the Sivagangai district of Tamilnadu catering 2700 population from 5 villages of corresponding to this panchayat.

Sampling Unit

The primary sampling unit was an individual household.

Sample Size Estimation

Minimum sample size required was 1000 subjects, based on 10% prevalence rate4, a precision of 20% and a non response rate of 10%. We decided to include residents who were aged 13 years and above, from the selected area, as study subjects.

Inclusion Criteria

All male with alcohol consuming habit above 13 years of age were included in the study and

Study subjects were divided into two groups

Group 1: alcoholic males

Group 2: alcoholic females

Exclusion Criteria

None were excluded from the study as all gave their willingness to participate in the study.

Study Tool

After obtaining their informed consent, the respondents were interviewed using a semi structured questionnaire. Data on socio-demographic details and presence of any morbid conditions were collected. Data on consumption of alcohol use and others forms of substance abuse was also collected. Socio-economic status was assessed, based on the regular scale. A History of alcohol intake, smoking or chewing tobacco was recorded. All the details pertaining to the source of alcohol, quantity of alcohol intake per day, type of alcohol taken by them, Foods taken immediately after consuming alcohol, and habits pertaining to substance abuse, type of alcohol and the amount spent for the purchase of alcohol per day were recorded. This questionnaire was translated to the local language (Tamil) and it was translated back into English to ensure its reliability and validity. A pilot study was conducted before initiation of the study, to look for the feasibility of administration of questionnaire.

Ethical Committee Approval

This study was conducted after getting proper approval from the Institutional Ethics Committee IEC No: VMCIEC/112/2022 on 02.12.2022. A written informed was consent was obtained from all participants before collecting data. For this purpose, a participant information sheet (in Tamil) indicating the purpose of the study, procedure of maintaining confidentiality, and right not to participate in the study was provided to the participants. Health education regarding the ill effects of alcohol consumption was given to all alcohol consumers who had participated in the study.

Method of Data Collection

Prior permission was obtained from the village president and local leaders for conduction the study. A village leaders meeting was conducted, during which the purpose of the study methods which had to be adopted and the possible implications of the results were discussed. Following the village leaders meeting, village mapping and social mapping of the area was done, in order to know the study area and to plan for data collection. Data was collected by making house to house visits and interviewing the subjects by using the questionnaire. Informed consent was obtained from the study subjects. If the designated house was locked during the visit, the house was noted and revisit was conducted on the left out houses on another day. The study was done as a part of a people welfare project for the community health workers of the particular village who were given training on administration of questionnaire and data collection process, under the supervision of the investigators.

Data Analysis

Data was entered and analysis by using SPSS version 16.0 for windows. The findings were expressed in terms of proportions and other descriptive statistics.

RESULTS

In my study while going for house-to-house visit in the study village there were 1200 male and 1500 female. In which alcohol consuming habit was seen in 900 males only. Remaining 300 male didn't have the habit of consuming alcohol. No female in the village had the habit of consuming alcohol. While seeing the age of the alcoholics 3.33% of the alcoholics were <15 years of age. 25.56% of the alcoholics were in the age group of 15 to 30 years. 46.67% of the males were in the age group of 31-45 years. 46 to 60 years of age group constituted for 15.56%. Remaining 6.11% and 2.78% were in the age group of 61-75 and >75 years of age respectively. While seeing the education of the alcoholics 62.2% of the male alcoholics were illiterate; 25.6% of the alcoholic were with primary level of education; 8.9% of the alcoholics were with

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secondary level of education; only 2.2% of the alcoholics were with higher secondary level of education; remaining 1.1% of the alcoholic were graduates.

[Table 1] shows the socio demographic profile of the alcoholics in which 50.0% of the alcoholics were unskilled workers and 36.1% of the alcoholics were semiskilled workers. 11.1% of the alcoholics were unemployed. 1.7% of the alcoholics were doing some form of clerical work and 1.1% of the alcoholics were semi-professional. Socioeconomic status of the alcoholic was categorized into five categories in which 80% of the alcoholic were in the lower-class category; 13.3% of the alcoholics belong to lower middle class; 5.6% belongs to middle class and 1.1% belongs to upper middle class and none belonged to upper class. While seeing the marital status of the study subjects 78.2% of the alcoholics were married; 20.1% of the alcoholics were unmarried and 1.7% of the alcoholics were divorced. All the study populations were Hindu. While observing the family type of the alcoholics 98.9% of the alcoholic were living as nuclear family and only 1.1% of the alcoholics belong to joint type of family. Among the alcoholics 98.9% were living in own house and 1.1% of the alcoholics were living in the rented house.

[Table 2] shows the age distribution of the subjects without drinking habit 16.6% of them were less than 15 years of age; 20% of the subjects were between the age group of 15 to 30 years; 26.6% of the subjects were in the age group of 31 to 45 years; subjects belonging to the age group of 45 to 60 accounts for 13.3%; 5% of the study subjects were in the age group of 61 to 75 years of age; 18.3% of the subjects were more than 75 years of age. When seeing the educational status of the non-alcoholics 33.3% of the subjects had secondary level of education followed by 26.6% had primary level of education; Only 8.3% were with postgraduate level of education and 15% of the study subjects were illiterate; while observing the socio economic status of the subjects most of them were unskilled workers comprising of 32.3%; 20% of the subjects were unemployed and 26.6% belonged to skilled and semiskilled workers category. In the same group only 1% were professionals and 13.3% were semiprofessionals.

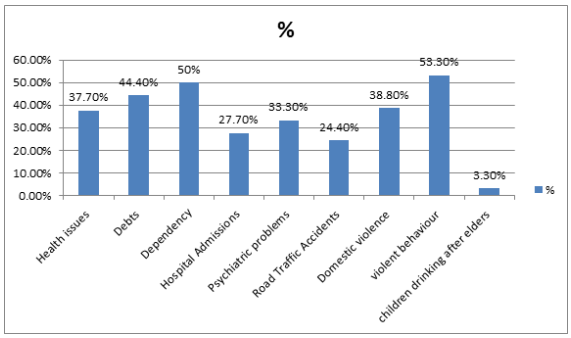

Figure 1: Bar chart showing the adverse consequences among alcoholics

[Table3] shows the adverse consequences of alcohol habit among the alcoholics in which 37.7% of the alcoholics had health issues; 44.4% of the alcoholics had debts; It was found that 50% of the alcoholics had become dependent on alcohol; while seeing the history of hospital admission 27.7% of the alcoholics were admitted in hospital at least once; 33.3% of the alcoholics had psychiatric problems; when seeing the history of road traffic accidents among the alcoholics it was found to 24.4%; domestic violence was prevailing in 38.8% of the alcoholics family; 53.3% showed violent behavior after consuming alcohol; children of alcoholics had started to drink alcohol after seeing their parents' alcohol habit.

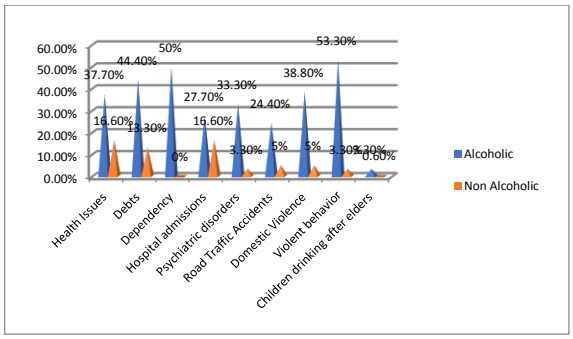

Figure 2: Bar chart showing the comparison of adverse consequences between alcoholics and non-alcoholics.

Table 1: Socio-Demographic Profile of Alcoholics

Variable	Frequency	%
Total male	1200	44.4%
Total female	1500	55.5%
Total	2700	100%
Alcohol drinking habit		
Male		
Yes	900	75%
No	300	25%
Total	1200	100%
Female		
yes	0	0%
no	1500	100%
Total	1500	100%
Subjects with Alcohol drinking habit (age wise) – male		3.33%
<15 years	30	25.56%

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15 – 30	230	46.67%
31 - 45	420	15.56%
46- 60	140	6.11%
61 – 75	55	2.78%
>75	25	100%
Total	900	
Education		
Illiterate	560	62.22%
Primary	230	25.56%
Secondary	80	8.89%
Higher secondary	20	2.22%
Graduate or above	10	1.11%
Total	900	
Occupation		
Professional	0	
Semi – professional	10	0%
Clerical shop owner	15	1.11%
Skilled, semi-skilled worker	325	1.67%
Unskilled worker	450	36.11%
Unemployed	100	50%
Total	900	
Socioeconomic status(BGP)		
Upper class	0	0%
Upper middle class	10	1.11%
Middle class	50	5.56%
Lower middle class	120	13.33%
Lower class	720	80%
Total	900	
Marital status		
Married	705	78.33%
Unmarried	180	20%
Widowed	0	0%
Divorced / separated	15	1.67%
Total	900	
Religion		
Hindu	900	100%
Christian	0	0%
Muslim	0	0%
Total	900	
Type of Family		
Nuclear	890	98.89%
Joint	10	1.11%
Three- generation	0	0%
Total	900	
Ownership of the house		
Owned	890	98.89%
Rented	10	1.11%
Total	900	

Table 2: Socio-Demographic Profile of Non Alcoholics

Variable	**Frequency**	**%**
Total male	1200	44.4%
Total female	1500	55.5%
Total	2700	100%
Alcohol drinking habit		
Male		
Yes	900	75%
No	300	25%
Total	1200	100%
Female		
yes	0	0%
no	1500	100%
Total	1500	100%
Subjects without Alcohol drinking habit	n=300	
(age wise) – male		16.6%
<15 years	50	20 %
15 – 30	60	26.6%
31 - 45	80	13.3%
46- 60	40	5%
61 – 75	15	18.3%
>75	55	100%
Total	300	
Education		
Illiterate	45	15%
Primary	80	26.6%

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Secondary	100	33.3%
Higher secondary	50	16.6%
Graduate or above	25	8.3%
Total	300	100%
Occupation		
Professional	3	1%
Semi – professional	40	13.3%
Clerical shop owner	20	6.6%
Skilled, semi-skilled worker	80	26.6%
Unskilled worker	97	32.3%%
Unemployed	60	20%
Total	300	100%
Socioeconomic status(BGP)		
Upper class	0	0%
Upper middle class	25	8.3%
Middle class	40	13.3%
Lower middle class	65	21.6%
Lower class	170	56.6%
Total	300	100%
Marital status		
Married	205	68.3%
Unmarried	80	26.6%
Widowed	10	3.3%
Divorced / separated	5	1.6%
Total	300	
Religion		
Hindu	300	100%
Christian	0	0%
Muslim	0	0%
Total	300	
Type of Family		
Nuclear	280	93.3%
Joint	20	6.6%
Three- generation	0	0%
Total	300	
Ownership of the house		
Owned	290	96.6%
Rented	10	3.3%
Total	300	100%

Table 3: Adverse Consequences of Alcohol Habit Among Alcoholics

Variable	Alcoholic (n=900)	%
Health issues	340	37.7%
Debts	400	44.4%
Dependency	450	50%
Hospital admissions	250	27.7%
Psychiatric disorders	300	33.3%
Road traffic accidents (RTA)	220	24.4%
Domestic violence	350	38.8%
Violent behavior	480	53.3%
Children drinking after elders	30	3.3%

Table 4: comparison of adverse consequences between alcoholics and non-alcoholics

Variable	Alcoholic (n=900)	Non alcoholic (n=300)	Chi square X^2	P value	Odds ratio(OR)	95% *CI*
Health issues	340 (37.78%)	50 (16.67%)	45.7107	0.0001	3.0357	2.1776, 4.2319
Debts	400 (44.44%)	40 (13.33%)	93.7799	0.0001	5.200	3.6355, 7.4378
Dependency	450 (50%)	0 (0%)	240.00	0.0001	601.00	37.39, 9660.79
Hospital admissions	250 (27.78%)	50 (16.67%)	14.8148	0.0001	1.9231	1.373, 2.693
Psychiatric Disorders	300 (33.33%)	10 (3.33%)	105.6905	0.0001	14.50	7.604, 27.649
Road traffic accidents (RTA)	220 (24.44%)	15 (5%)	54.0183	0.0001	6.147	3.579, 10.559
Domestic violence	350 (38.89%)	15 (5%)	122.09	0.0001	12.09	7.072, 20.67
Violent behavior	480 (53.33%)	10 (3.33%)	232.825	0.0001	33.14	17.409, 63.098
Children Drinking after elders	30 (3.33%)	2 (0.67%)	6.1644	0.0131	5.1379	1.2205, 21.629

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[Table 4] shows the comparison of adverse consequences between alcoholics and non-alcoholics in which health issues are more among the alcoholics accounting for 37.7% than the non-alcoholics where the health issues are seen only in 16.6% and it is statistically significant which is p value <0.05; on seeing the debts among the alcoholics and non-alcoholics it was also high among the alcoholics i.e. 44.4% whereas debts were there only with 13.3% of the non-alcoholics which is statistically significant i.e. p value <0.05 ; dependency is found only with the alcoholics amounting for 50% of the alcoholics and it was found that none of the non-alcoholics had the dependency problems due to any other reasons also which is statistically significant p value of 0.001; while seeing the hospital admission history of the study subjects 27.7% of the alcoholics had the history whereas only 16.6% of the non-alcoholics had history of hospital admission for any reasons which is also statistically significant p value <0.05; Psychiatric problems were more among the alcoholics accounting for 33.3% whereas only 3.3% of the non-alcoholics had psychiatry problems; while seeing the history of road traffic accidents 24.4% of the alcoholics had the history of RTA and only 5% of the non-alcoholics had history of RTA; Domestic violence was seen in 38.8% of the families of alcoholics and only 5% of the non-alcoholics' family has experienced domestic violence which is statistical significant p value <0.05; Violent behavior was seen among 53.3% of the alcoholics whereas only 3.3% of the non-alcoholics showed violent behavior; When seeing the emergence of alcohol habit among children after seeing their parents drinking habit was seen in 3.3% whereas it was only found in 0.6% children of non-alcoholics which is also statistically significant p value 0.013.

DISCUSSION

In a study done by Ravneeth Kaur et al majority of alcoholics were in the age group of 31-40 years comprising to 46% and only 4 i.e., 1.2% were under the age group of less than 20 years of age which is similar to my study in which 46.67% were in the age group of 31 to 45 years of age and 3.3% subjects were in the age group of less than 15 years of age which is almost similar to the above study. When seeing the educational part of the study subjects 86% were educated whereas majority of the study subjects were illiterate comprising to 62.22%. In the above study 37.5% had mood disorders; 35.7% had schizophrenia and other psychotic disorders and only 7.1% had anxiety disorders; other psychotic disorders like sleep disorder and sexual disorders were seen among 20% of the study individuals whereas in my study psychiatric disorders were seen in 33.3% of the alcoholic males and only 3.3% of the non-alcoholic males had psychiatric disorders and it is also statistically significant.[5]

In a study done by Subir Kumar Das et al on-alcohol consumption its health and social impact in India 19% of the study subjects developed mouth and oropharynx neoplasm; 29% developed with esophageal neoplasm; 25% developed liver neoplasm and only 7% developed breast carcinoma. Among the study subjects 2% of them developed unipolar depressive disorder and 18% developed epilepsy in the form of alcohol withdrawal seizures. In the same study 100% of the study subjects developed dependence and harmful use of alcohol was seen in the same group; likewise cardiovascular disorders like hemorrhagic stroke seen among 10% of the study participants and ischemic heart diseases were seen in 2% of the study subjects. Adding to the above health issues cirrhosis of the liver was found in 32% of their study population. In the same way motor vehicle accidents were seen in 20% of the study population and 11% of the study subjects had self-inflicted injuries and 24% of them had history of homicide whereas in my study 37.7% had health issues; and only 50% of my study subjects had alcohol dependency problems whereas in the above study all the study participants were dependent to alcohol and had harmful alcohol using habit; Likewise in my study 27.7% of the alcoholics had history of several hospital admissions for alcohol related health issues; when compared to the above study road traffic accidents were seen in 24.4% of the study subjects which is similar to the study by Subir Kumar das et al study. In the same way psychiatric disorders were seen among 33.3% of the study participants in my study were as only 20% had psychiatric disorders in the above study; Violent behavior was noticed in 53.3% of the alcoholics in my study but only 35% of the alcoholics developed violent behavior because of alcohol.[6]

In a study by Srinath et al 35.9% went to healthcare for liver disease or cirrhosis and 4.8% of the study participants sought out healthcare for withdrawal symptoms whereas in my study health issues were seen in 37.7% among the alcoholics and 27.7% of the alcoholics got admitted in the hospital for various health issues including liver cirrhosis; in the same study 23.3% sought out hospital for road traffic accidents which is similar to my study contributing to 24.4%; In the above study physical fights or violent behavior was seen in 20.4% of the alcoholics whereas in my study it is seen in 53.3% of the alcoholics which two times more than my study; similarly in the same study 4.8% of the study participants had withdrawal symptoms which very low when compared to my study in which dependency with withdrawal symptoms were seen in 50% of the study participants; other symptoms like headache and gastritis were found in 15.6% of the alcoholics in the above study.[7]

In a study by Mukhopadhyay more number of alcoholics i.e. 46.6% were found in the age group of 31 to 40 years which is exactly similar to my study;

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In the same study 36.6% of the alcoholics were educated upto 8th standard and 33.3% of the alcoholics had education level of upto 6thstandard; whereas in my study most of the alcoholics were illiterate accounting for 62.2%; when seeing the employment of the alcoholics were mostly unskilled accounting for 76.6% which is two times more than my study; when seeing the inspiration for drinking among the alcoholics in the above study drinking habit was modeled by father which is accounting for 51.67% whereas in my study children drinking after father or elders were seen in 3.3% which is much lower than the above study. When seeing the dependency nature of the alcoholics 12% had withdrawal symptoms; Road traffic accidents were seen in 8.3% of the alcoholics which are much lower than my study.[8]

In a study by Aruna Dandu et al verbal violence was seen in 24.8% of the alcohol dependence subjects with psychiatry morbidity and it was found lesser among the alcoholic spouses constituting to 17.8% whereas both verbal and physical form of domestic violence was observed in 33.7% of the spouses living with psychiatric morbid partners and it was found only in 8.9% of the spouses living without any psychiatric morbidity. While comparing to my study 38.8% of the women experienced domestic violence which is almost similar to the above study.[9]

Limitations of the Study

In my study adverse consequences data were all self-reported by the participants, so there could be a chance for recall and response biases.

CONCLUSION

Problems of alcohol use in India have attracted the attention of public health policy makers and research workers. Most common reason for the starting and continuation of drinking was peer pressure. Thus, emphasis should be made on the factors which are related to the early initiation of alcohol use and steps should be taken to prevent the youths from being influenced by their peers. IEC activities have to conducted regularly by the stakeholders among these kind of groups by enlightening them on the adverse consequences of alcohol habit. The role of primary care physician is very important in organizing effective health education measures with the help of his team. The behavior change can be initiated and maintained with persistent motivation and support from primary care team.

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