

Evaluation Of Important Psycho-Social Factors In Alcoholic Patients In A Tertiary-Care Hospital

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Abstract

Alcoholism is a chronic disease. It has been observed that alcoholism runs in families! India lies 4th in the 5-point scale for Years of Life Lost scale of WHO. It ranges from uncontrolled drinking and pre-occupation with alcohol. An alcoholic is a man or a woman who suffers from alcoholism - they have a distinct physical desire to consume alcohol beyond their capacity to control it, regardless of all rules of common sense. Symptoms include repeated alcohol consumption despite related legal and health issues. Those with alcoholism may begin each day with a drink, feel guilty about their drinking and have the desire to cut down on the amount of drinking. There are Various factors have been associated with alcoholism and this study was conducted with the **aim** to find out psychosocial factors in the alcoholic individual with objectives to find out simple explanation for why some individuals develop problems with alcohol. Multiple biological and psychosocial factors mutually influence each other in causing alcohol abuse; it would be incorrect to view psychosocial causes as either independent from, or competing with, biological causes. Rather, alcohol use and alcoholism are best viewed as end products of a combination of bio psychosocial influences. In India, there are more than 10 million cases of alcoholism per year which makes the issue grave to be taken into account.

Keywords: Addiction, Alcoholism, Effects, Psychological

Abbreviations: AUD (Alcohol Use Disorder), CAGE- Cut, Annoyed, Guilty, Eye-opener DASS-Depression, Anxiety and Stress Scale, MAST-Michigan Alcoholism Screening Test, PSLE-Presumptive Stressful Life Events

Introduction:

Excessive alcohol intake changes the chemical makeup of the brain in ways that can contribute to addiction. Drinking alcohol affects the physical and mental health of some people differently than others, and in some leads to alcohol-related disorders

Alcohol abuse tends to run in families: The rate of the condition is three to four times higher in close relatives of alcoholics, and the risk increases with the closeness of the genetic relationship. Environmental factors include cultural attitudes about drinking, availability of alcohol, and substance abuse by peers. The risk of abusing alcohol increases if individuals use drinking to numb themselves to their problems, to cope with anxiety, fears, or mood issues, or to enhance their creativity. Impulsivity is also linked to alcohol abuse.¹

Alcohol is one of the most commonly abused substances, and men are up to twice as likely to develop alcoholism as women. According to a study on male and female college-age social drinkers in a laboratory test of alcohol consumption. After consuming an alcoholic or non-alcoholic drink, each participant underwent a specialized positron emission tomography (PET) scan, an imaging technique that can measure the amount of alcohol-induced dopamine release. Dopamine when released in ventral striatum during an experience such as sex, drugs, alcohol have pleasurable effects. Despite similar consumptions of alcohol, the

men had greater dopamine release than women. Which predisposes men more to habituation of alcohol. There is decline in alcohol-induced dopamine release with repeated heavy drinking episodes, so this leads to increased quantity and frequency of consumption of alcohol

Alcohol is degraded in the body by alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH). The level of these enzymes is determined by various genes. If ADH level increases or ALDH level decrease it results in accumulation of aldehyde in the body it gives effects which are similar to consumption of alcohol when disulfiram is taken. Which discourages alcoholism

Powerful international and domestic alcohol companies are purposely targeting young Indians by introduced different flavours of alcohol drinks to attract previously non-drinking women and young men. Alcohol use disorder is frequently associated with other substance use disorders, antisocial personality disorder, anxiety disorders, mood disorders like depression and bipolar disorder and usually the combination becomes complex and difficult to manage².

Few myths like alcohol makes you sleep easily, actually it helps to fall asleep a little early but reduces your deep sleep and fragment the sleep resulting in long awaken periods.

Dadra and Nagar Haveli, Chhattisgarh, Andhra Pradesh, Andaman and Nicobar Islands, Sikkim and Puducherry were reported to have the highest consumers of liquor and spirits in India and It was also revealed that over 11% of the population in India indulged in heavy or binge-drinking. The global figure stood at 16% which is very high³.

ALCOHOL USE DISORDER (AUD)

Criteria

Two or more of the following items occurring in the 12 month period are must for the diagnosis of an alcohol use disorder.

- 1) Drinking resulting in recurrent failure to fulfill role obligation.
- 2) Recurrent drinking in hazardous situations
- 3) Continued drinking despite alcohol related social or interpersonal problem
- 4) Tolerance
- 5) Withdrawal and substance use for relief/avoidance of withdrawal
- 6) Drinking in large amount or for longer than intended
- 7) Persistent desire attempt to stop alcohol or reduce drinking
- 8) Great deal of time spent obtaining, using or recovering from alcohol
- 9) Important activity give up
- 10) Continual drinking despite knowledge of physical and psychological problems caused by alcohol
- 11) Alcohol craving.

Mild AUD 2-3 criteria required

Moderated 4-5 criteria required

Sever AUD more than 6 criteria required

In 2005 the estimated numbers of people using alcohol in India was 62.5 million with 17.4 % of them (10.6 million) having alcohol use disorder and of all hospital admissions in India 20-30% are due to alcohol related problems.

³ On the 'Years of Life Lost' scale by the WHO, which is based on alcohol-attributable years of life lost, India has been rated 4 on a scale of 1 to 5. This implies that the alcohol consuming population of our country loses most years of their life because of drinking and its consequences.

AIM:

The aim of the study project is evaluation of the various psycho-social factors leading to alcoholism and analyze them.

Objectives:

- To find out psychological morbidities in alcoholic individuals.
- To find out social factors responsible for alcoholism.
- To collaborate active psychiatric management with general medical care of the patient.

Methodology

- **Study-area:** Tertiary care hospital of Karad city.
- **Study-subjects:** All patients of alcoholic use disorder admitted in the ward of tertiary care hospital of Karad till the estimated sample size is complete which was calculated using following study and formula
- **The sample size:** was calculated using $4pq/l^2$
It has been found in study conducted by Department of Psychiatry, S.P. Medical College and Associated Group of Hospitals, Bikaner⁵ that psychiatric morbidity being 54 % in alcoholic patients here
 p =Percentage of people who are alcoholic with psychiatric morbidity
 q =Percentage of people without psychiatric morbidity
 l =Percentage margin of error. For the proposed aims and objectives and study duration here it was considered as 15
Hence sample size for collection of data will be by putting values into the following formula for cross-sectional study was
 $\rightarrow 4pq/l^2=44.16$
Therefore a minimum of 45 patients or more were considered adequate for the proposed aims and objectives of the study.
- **Study-period:**
2 months (45 days for Data collection and 15 days for analysis)
- **Study-design:**
Descriptive, cross-sectional study
- **Statistical analysis:** The data will be analysed using percentage, chi-square test

Methodology: First basic information regarding the patient's drinking habits are sought out and then patient's level of alcohol addiction is assessed by their answers to pre-tested questionnaires, the ⁴CAGE questionnaire and ⁵MAST questionnaire

Following these preliminary tests, interview is further carried on by going systematically to the patient's issues faced in life causing him/her to depend on alcohol by using special questionnaires like

1. **The DASS scale⁶:** The DASS (Depression, Anxiety, and Stress Scales) is a set of three self-report scales designed to measure the negative emotional states of depression, anxiety and stress.
2. **PSLE scale (Presumptive Stressful Life Events⁷):**
The PSLE is a scale which gauges the stressful or undesirable events which have occurred in the subject's life and quantifies it into their level of emotion i.e depression or sadness.
3. **SRQ Scale¹⁵:** The self-reporting questionnaire was also used to assess psychological stress in the alcoholics.

Results:

Table 1: Distribution of Patients according to age

Age in year	No. of pt.
0-20	0 (0)
21-40	23(51.11)
41-60	17(38)
61-80	5(11.11)
>80	0 (0)

In our study sample the age range of the individual ranged from 21-80 years. The minimum age observed was 22 years whereas a 66 years' alcoholic was the oldest from all, Maximum i.e. 23(51.11%) patients were between the age group of 21-40, followed by 17 (38%) patients were between the age group of 41-60, whereas 5 (11.11%) patients were between the age group of 61-80. The range of admitted patient was 22 years to 66 Years.

Table 2: Distribution of patients according to religion

Religion	No. of pt.
Hindu	34 (75.55)
Muslim	7(15.55)
Christian	4 (8.88)

Others	0
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In the study subjects out of 45 patients 34(75.55%) patients were Hindu by religion, 7% (15.55%) patients were Muslim and 4 (8.88%) patients were Christian.

Table3: Distribution of alcoholics according to education

Education	No. of pt.
None/ILLITERATE	17 (37.77)
Primary Education	9 (20)
Secondary Education	10 (22.22)
Higher Education	9 (22)

17(37.77%) were illiterate, 9 (20%) patients were educated till primary school, 10(22.22%) patients were educated till secondary school and 9 (20%) patients were educated till or more than higher school i.e. 12th standard.

TABLE 4: Distribution of pt. according to income

Income	No. of pt.
<10000	22 (48.88)
11000-20000	14 (31.11)
21000-30000	4 (8.88)
31000-40000	3 (6.66)
41000-50000	2 (4.44)
>50000	0

Result: In the above table out of 45 patients 22(48.88%) have income<10,000, 14(31.11%) patient have income between 11,000-20,000, 4(8.88%) patient have income between 21,000-30,000, 3(6.66%) patient have income between 31,000-40,000, 2(4.44%) patient have income between 41,000-50,000.

TABLE 5: Distribution of patients according to marital status

Marital status	No of patients
Married	40 (88.88)
Unmarried	3 (6.66)
Widower	2 (4.44)

In the study 40(88.88%) patients were married, 3(6.66%) were unmarried and 2(4.44%) were widower.

TABLE 6: Distribution of patients according to DASS score

Range	Depression	Anxiety	Stress
Normal	0 (0%)	1 (2.22%)	1 (2.22%)
Mild	11 (24.44%)	7 (15.55%)	13(28.88%)
Moderate	27 (60%)	34 (75.55%)	19 (42.22%)
Severe	6 (13.3%)	3 (6.66%)	12 (26.66%)
Very severe	1 (2.22%)	0 (0%)	0 (0%)
Total	45	45	45

In our study out of 45 patients 11(24.44%) were mildly depressed, 27(60%) were moderately depressed, 6(13.3%) were severely depressed whereas 1(2.22%) is very severely depressed. In anxiety 1(2.22%) is normal, 7(15.55%) are mildly anxious, 34(75.55%) are moderately anxious, 3(6.66%) are severely anxious. In stress 1(2.22%) is normal, 13(28.88%) are having mild stress, 19(42.22%) are moderately stressed, 12(26.66%) are severely stressed.

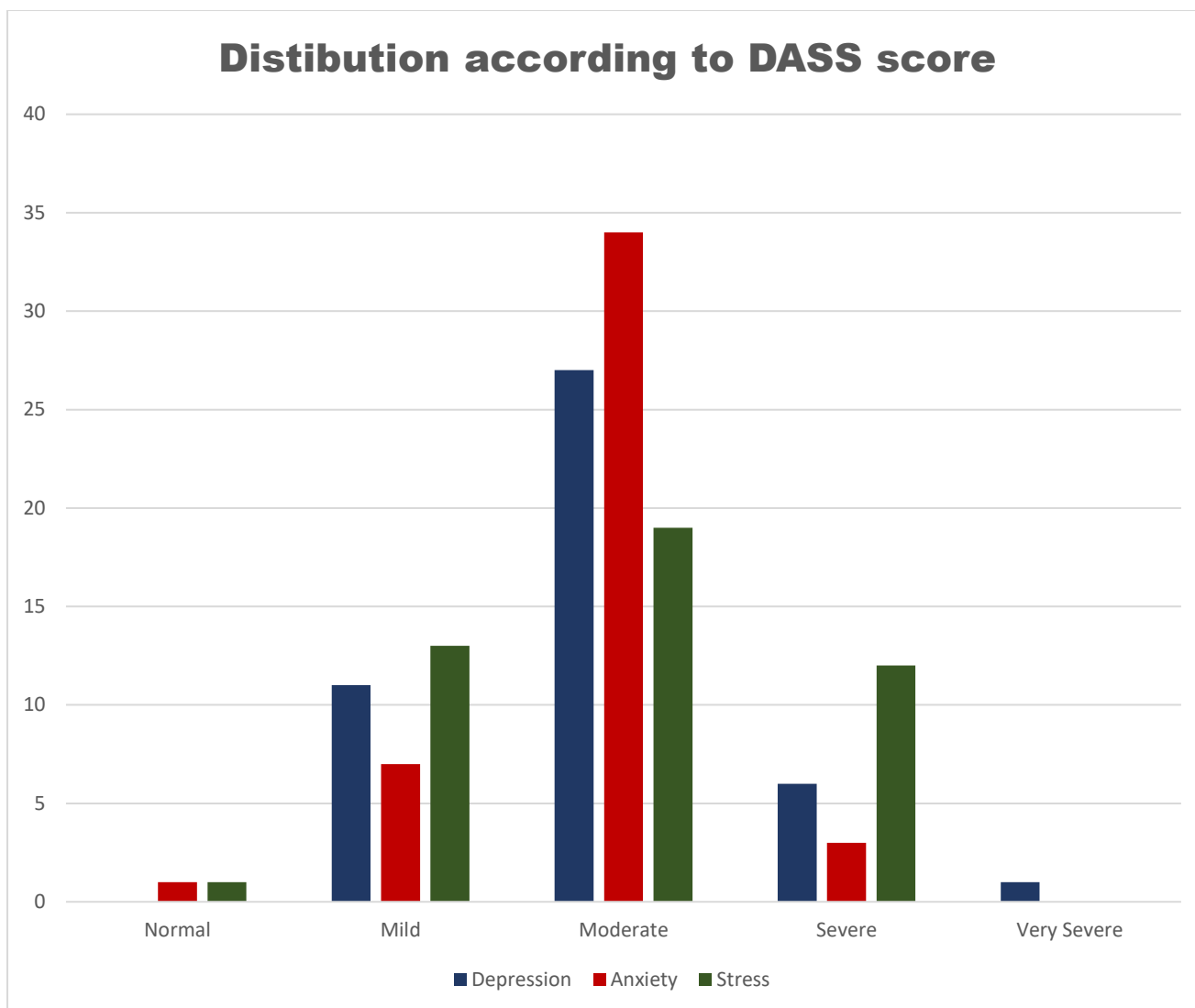


TABLE 7: Distribution of patients according to MAST score

Range	No. of pt.	% of pt.
No alcoholism	0	0%
Middle alcoholism	0	0%
Aggravated alcoholism	45	100%
Total	45	100%

Result: Alcohol aggravation was found in all the 45 patients studied. Alcohol aggravation is rampantly present in the alcoholic individual and is the cause of trouble for antisocial activities of the alcoholics⁸. The MAST scale is simple scale to find out the aggravated alcoholism and we can use the scale easily to screen alcoholic individual and halt the damage.

TABLE 8: Distribution of patients according to percentage of income spends on alcohol.

Percentage of income spent	No. of patients
0-20%	12 (26.66%)
21-40%	24 (53.33%)
41-60%	8 (17.77%)
61-80%	1 (2.22%)
81-100%	0 (0%)

Result: In the above table out of 45 patients, 24 (53.33%) patients spend 0-20% of income, 12 (26.66%) patient spend 21-40% of income, 8 (17.77%) patients spent 41-60% of income whereas 1 (2.22%) patient spend 61-80% of his income on alcohol drinking.

In study conducted by Kim Bao Giang⁹ the median expenditure of income spends on alcohol was found to be 4.7% in rural area, but in our study the spent on Alcohol was very high upto 40% of reported income.

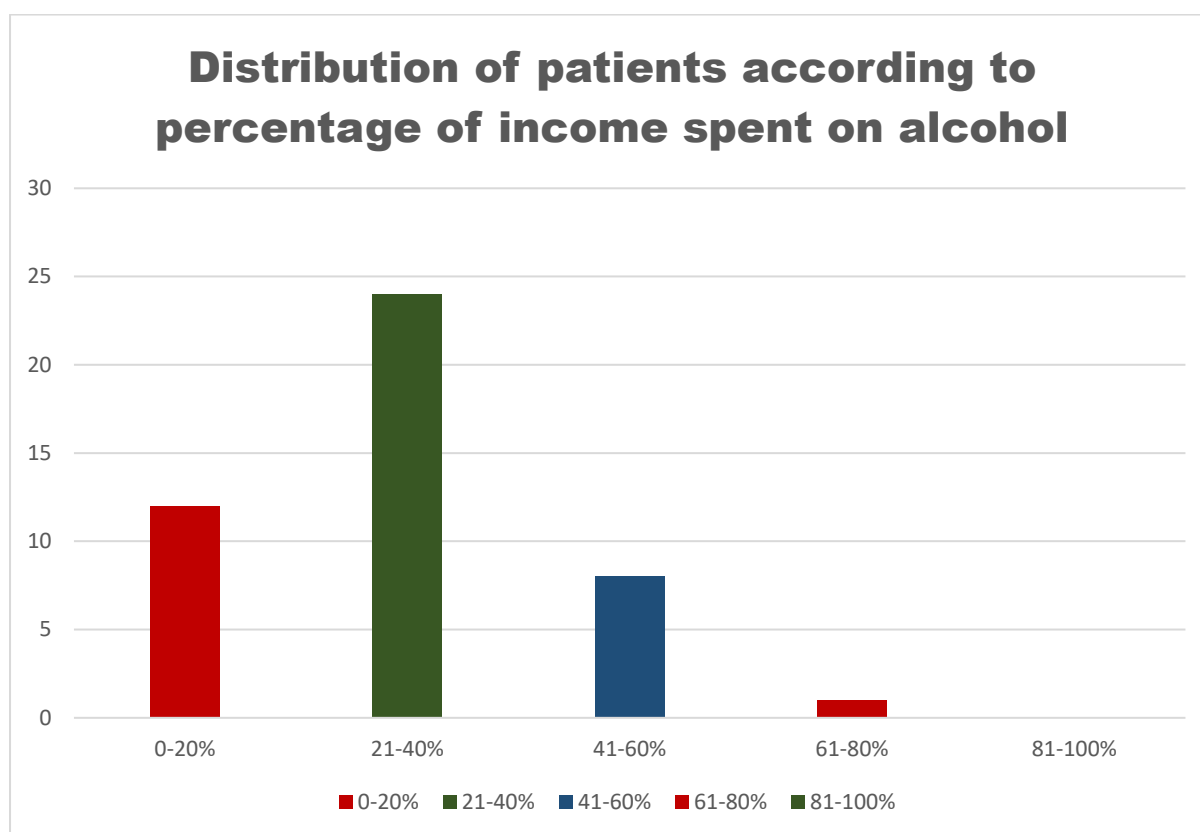


TABLE 9: Comparison of patient's income with DASS scale (depression).

Income	No. of pt. in depression	% of pt. in depression
<10000 (total no. of pt.- 22)	Mild – 9	40.90%
	Moderate -10	45.45%
	Severe -3	13.63%
10000-20000 (total no. of pt. - 14)	Mild – 0	0%
	Moderate- 11	78.57%
	Severe-3	21.42%
>20000(total no. of pt. - 9)	Mild – 2	22.22%
	Moderate – 6	66.66%
	Severe – 1	11.11%

Result : in the above table out of 45 patient 22 have <10000/- income in which 9(40.90%) have mild depression, 10(45.45%) having moderate depression & 3(13.63%) have severe depression while 14 patient have income between 10000-20000/- in which 0 have mild depression,11(78.57%) have moderate depression and 3(22.22%) have severe depression and 9 patient have >20000 income out of which 2(22.22%) have mild depression,6(66.66%) have moderate depression while 1(11.11%) have severe depression.

Comparision of patients income with DASS scale(depression)

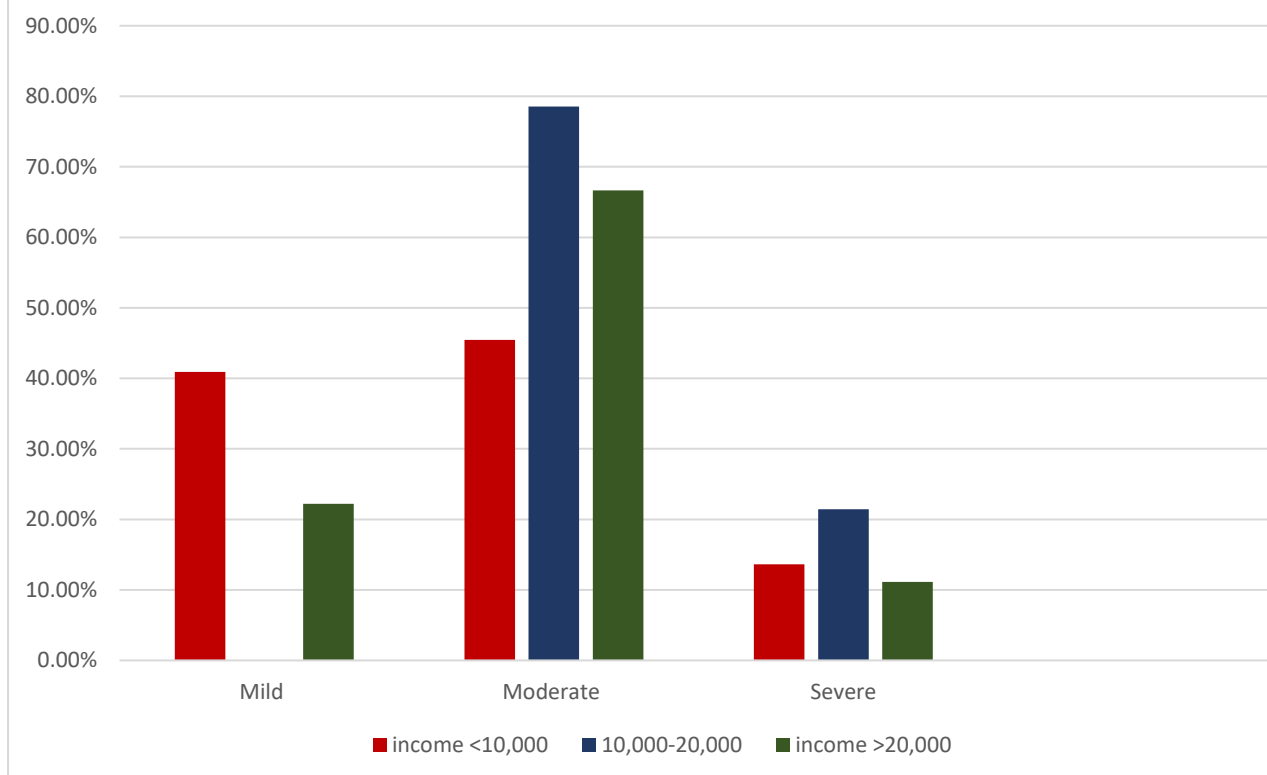


TABLE 10: Comparison of patient's income with DASS scale (anxiety).

Income	No. of pt. in anxiety	% of pt. in anxiety
<10000 (total no. of pt.- 22)	Mild – 4	18.18%
	Moderate – 16	72.72%
	Severe – 2	9.09%
10000-20000 (total no. of pt. - 14)	Mild – 1	7.14%
	Moderate- 12	85.71%
	Severe- 1	7.14%
>20000(total no. of pt. - 9)	Mild – 3	33.33%
	Moderate – 6	66.66%
	Severe – 0	0%

Result: : in the above table out of 45 patient 22 have <10000/- income in which 4(18.18%) have mild anxiety, 16(72.72%) having moderate anxiety & 2(9.09%) have severe anxiety while 14 patient have income between 10000-20000/- in which 1(7.14%) have mild anxiety, 12(85.71%) have moderate anxiety and 1(7.14%) have severe depression and 9 patient have >20000 income out of which 3(33.33%) have mild anxiety,6(66.66%) have moderate anxiety while 0(0%) have severe anxiety.

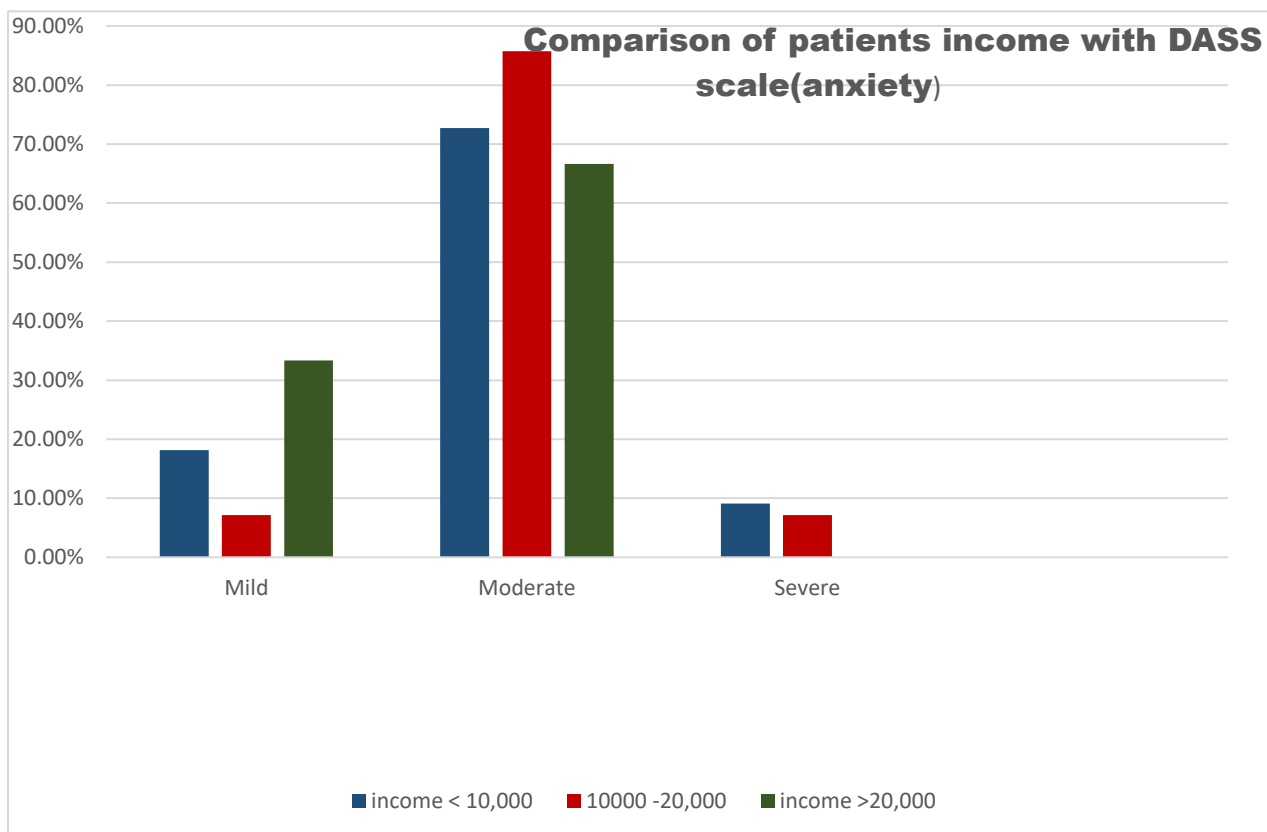
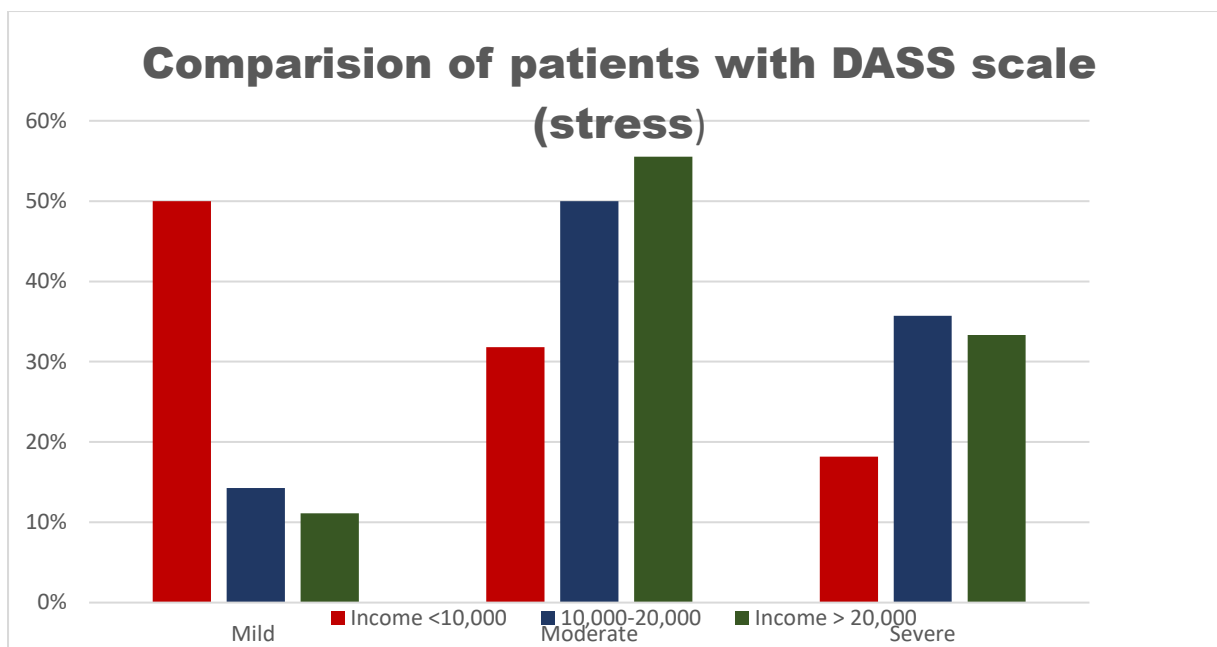


TABLE 11 : Comparison of patient’s income with DASS scale (stress)

Income	No. of pt. in stress	% of pt. in stress
<10000 (total no. of pt.- 22)	Mild – 11	50%
	Moderate – 7	31.8%
	Severe – 4	18.18%
10000-20000 (total no. of pt. - 14)	Mild – 2	14.28%
	Moderate-7	50%
	Severe- 5	35.71%
>20000(total no. of pt. - 9)	Mild – 1	11.11%
	Moderate – 5	55.55%
	Severe – 3	33.33%

out of 45 patients 22 have <10000/- income in which 11(50%) have mild stress, 7(31.8%) having moderate stress & 4(18.18%) have severe stress while 14 patients have income between 10000-20000/- in which 2(14.28%) have mild stress,7(50%) have moderate stress and 5(35.71%) have severe stress and 9 patients have >20000 income out of which 1(11.11%) have mild stress,5(55.55%) have moderate stress while (33.33%) Have severe stress. Stress and Morbidity can be judged by a very useful tool called Self Reporting Questionnaire¹¹ and author have found the test very easy to administer to easily identify the individuals with psychiatric morbidity in any individual with minimal skill with the administration of the questionnaire.



From the finding here it was observed that the moderate to severe stress was evident in the middle to high i.e. 10000 to 20000 and > 20000 rupees income group which suggests low income group people were slightly immune to the stress despite their low economic status. Although the sample size is not adequate to comment that this finding can be applicable to the general population.

Sr.No	Reason	No of patients
1	Fun	21
2	Relaxation	15
3	Nothing to do better	5
4	Everyone is consuming	3
5	Depression	1

Conclusion:

In our study of 45 alcoholic patients, the causes for alcoholic consumption found were as described in following table.

Lower income age groups were reported majorly to have an addiction to alcoholic and conversely, the psychological factors depression and anxiety were also reported majorly from these groups.

Implications:

It was found that majority of the people who consume alcohol, their reasons for doing so were to have fun and for relaxation, so if the price of alcoholic beverages is increased, it will decrease the number of people who consume alcohol. In few alcoholic patients' psychological factors (sadness/ depression) cause alcoholism, so alcoholics should also be evaluated for psychological factors with proper guided psychiatric counselling.

Conflicts of Interest:

None

Funding:

It was a self-funded project.

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