



## ASSESSMENT ALCOHOLICS AND IMPLEMENTATION OF DE-ADDICTION PROGRAMME

Dr. K. Sridevi<sup>1</sup>, M. Venkata Subbaiah<sup>\*2</sup>, L.Kavya<sup>2</sup>, K. Gowtham Reddy<sup>2</sup>,  
Silpa Sudarshan<sup>2</sup>, Tania Franklin<sup>2</sup>, M. Bhavana Reddy<sup>2</sup>

<sup>1</sup>Associate Professor I/C HOD, Department of Pharmacology, Rajiv Gandhi Institute of Medical Sciences, Kadapa, Andhra Pradesh, India – 516003  
Email: drsridevi19@gmail.com

<sup>2</sup>Department of Pharmacy Practice, P. Rami Reddy Memorial College of Pharmacy, Kadapa, Andhra Pradesh, India –516003,

*\*Corresponding author E-mail:* pharmachinna@gmail.com

### ARTICLE INFO

### ABSTRACT

#### Key words:

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Some people drink alcohol for tradition /modern lifestyle habits with known harm. Tribal people, rural area people take alcohol for relaxing purpose without knowing the harm and the exact harm of taking this poison is not known by the common people. Alcohol consumption can have adverse social and economic effects on the individual drinker and can affect work performance. so we do this study to create awareness among public, about alcoholic complications and to implement de-addiction programme. Prospective Interventional Study was conducted on alcoholics who are willing to quit and visiting south Indian tertiary care teaching hospital. All the recruited alcoholics were assessed for their risk level of dependence, Severity of harmful consumption and withdrawal symptoms by using standard questionnaires. Based on the score, de addiction interventions, and counselling either by aversion therapy (disulfiram) or by anti-craving therapy (acamprosate) and were implemented and monitored the subject throughout the intervention. Among 51 recruited individuals 37.25% had habituated to alcohol because of heavy work, followed by for pain relief (21.56%), by friend's influence (17.64%), and for stress relief (15.68%). We found 11.76% individuals were experienced severe symptoms, 7.85% moderate withdrawal symptoms and 80.39% were experienced mild symptoms, among all anxiety was the commonest withdrawal symptom found in 60% individuals, 58 % individual were experienced tremors. 66.66% of the individuals were totally quit the alcohol consumption, 23.52% of the individuals were unable to quit alcohol, and 9.81% were reduced the amount. A total of 36 individuals have 17 types co morbidities were observed, out of which 47.06% of were affected with all other diseases such as angina, MI, malaria, viral fever, cholilithiasis etc., 17.65% with diabetes and hypertension, 11.76% with asthma, 5.88% tuberculosis **Conclusion:** clinical pharmacist is the logical and in many cases the only candidate for providing the cognitive behavioral counseling and motivation that are keen to quit alcohol successfully. The tragic health consequences of alcohol use can be significantly reduced if alcohol dead diction interventions are delivered in a timely manner.

### INTRODUCTION:

**Alcohol** does not contain nutrients, not useful in relieving tension, inducing sleep or solve problems. At high doses it depress the

central nervous system, and at lower doses it is a stimulant, euphoric and induces talkativeness, too much alcohol at once can lead to drowsiness, respiratory depression,

coma or even death.<sup>1</sup> **Alcoholism** is a disorder marked by pathological pattern of alcohol use that causes serious impairment in social and occupational functioning and leads to **addiction**.<sup>2</sup> **De-addiction** is the psychiatric plus allopathic treatment for helping the addicted patients to successfully come out of the addiction.<sup>3</sup> A standard drink contains about 14 grams (about 0.6 fluid ounces) of pure alcohol<sup>4,5</sup>

#### GENERAL PATTERNS OF ALCOHOL CONSUMPTION<sup>6</sup>

Since the early 60's the average consumption of alcohol of adults Worldwide, expressed as liters of pure alcohol from beer, wine and spirits, has ranged from 4 to 6 liters per person per year. **Heavy drinkers** can be defined in various ways i.e. more than three drinks per day, five drinks on one occasion, at least once a week or drinking every day.

#### STAGES OF ALCOHOLISM<sup>7</sup>

**Stage 1:** Alcohol Addiction: Abstinence

**Stage 2:** Alcohol Addiction: Initial Use

**Stage 3:** Alcohol Addiction: High Risk Use

**Stage 4:** Alcohol Addiction: Problematic Use

**Stage 5:** Alcohol Addiction: Early Stage of Dependency

**Stage 6:** Alcohol Addiction: Middle Stage of Dependency

**Stage 7:** Alcohol Addiction: Crisis Stage of Dependency

#### ALCOHOLISM EFFECTS ON DIFFERENT SYSTEMS<sup>1</sup>

**Bones and Muscles** - Interferes with the absorption of calcium and bone formation and lead to osteoporosis, osteonecrosis, gout and muscle wasting and weakness.

**Blood and Immune System** - Anemia and low platelets. It also suppresses the immune system, making it more difficult for the body to fight off both viral and bacterial infections.

**Brain and Nervous System** - mild to severe brain damage as a result of thiamine (vitamin B1) deficiency, it also causes a chronic condition of memory loss.

**Breasts (Women)** - Increases the risk of breast cancer.

**Eyes** - Along with a diet low in vitamin B1 and B12, may lead to decreased vision.

**Heart and Blood Pressure** - heavy drinking increases the risk of coronary artery disease and is also associated with sudden death from heart failure.

**Intestines** - Malabsorption to malnutrition, cancer of the large bowel/intestines and rectum.

**Kidneys and Fluid Balance** - Alcohol is a diuretic and leads to dehydration cause the loss of important minerals and salts and leads to many problems ranging from irregular heartbeats to seizures.

**Liver** - alcoholic liver disease. This occurs across a spectrum from fatty liver, to acute alcoholic hepatitis, to cirrhosis and to liver cancer (which is often quickly fatal).

**Lungs** - associated with impaired immune system with higher rates of pneumonia, tuberculosis and acute respiratory distress syndrome (ARDS)

**Mouth and Throat** - Alcohol is a carcinogen; regular alcohol use increases the risk of cancers of the mouth, throat and voice box. In smokers, this risk is increased much more.

**Pancreas and digestion of Sugar** - acute and chronic pancreatitis and can cause abdominal pain, weight loss, diabetes, malnutrition and oily bowel motions.

**Sexual Health (Men)** - Chronic heavy alcohol use can lead to impotence, loss of sex drive, wasting of the testicles and reduced fertility. This is primarily because alcohol affects testosterone levels.

**Sexual Health (Women)** - reduced fertility and can make periods heavy or irregular or stop altogether, risk of miscarriage, low birth weight, stillbirth and premature birth and significant abnormalities in unborn, developing baby (fetal alcohol spectrum disorder).

**Skin and Fat** - when associated with serious liver disease and liver failure, can also cause yellowing of the skin, decreased body hair and spider veins. Alcohol is a high-calorie beverage, and an appetite stimulant, and people tend to eat more when consuming alcohol with their meals.

**Stomach and Food Pipe (Esophagus)** - cancer of the esophagus. In cases of advanced liver disease due to prolonged heavy alcohol use, the veins to the stomach and esophagus can swell and may burst, causing life-threatening bleeding.

### On Drug Therapy<sup>8</sup>

- The effects of the medication can become dangerously strong
- Alcohol can increase the effects of hypnotics, sleeping pills and sedatives. This can lead to increased drowsiness, coma and even death.
- The side effects of the medication can get worse, mixing alcohol with aspirin increases the risk of getting stomach ulcers
- The medication can become less effective; mixing alcohol with diabetic medication can prevent it from working properly and may contribute to dangerous instability in blood sugar levels. Alcohol can also interfere with the efficacy of antiretroviral drugs used to treat HIV/AIDS.

### On Social and Professional Life

#### *Social and economic problems are linked to alcohol use*

Alcohol consumption can have adverse social and economic effects on the individual drinker, the drinker's immediate environment and society as a whole. Indeed, individuals other than the drinker can be affected, for example, by traffic accidents or violence. It has an impact on society as a whole in terms of resources required for criminal justice, health care and other social institutions.

#### *Work performance be affected by alcohol consumption<sup>6</sup>*

Alcohol consumption can affect work performance in several ways:

- *Absences* - There is ample evidence that people with alcohol dependence and drinking problems are on sick leave more frequently than other employees, with a significant cost to employees, employers, and social security systems. In Costa Rica, an estimated 30% of absenteeism may be due to alcohol. In Australia, a survey showed that workers with drinking problems are nearly 3 times more likely than others to have injury-related absences from work.
- *Work accidents* - In Great Britain, up to 25% of workplace accidents and around 60% of fatal accidents at work may be linked to alcohol. In India about 40% of work accidents have been attributed to alcohol use.
- *Productivity* - Heavy drinking at work may reduce productivity. In Latvia, 10% of

productivity losses are attributed to alcohol. Performance at work may be affected both by the volume and pattern of drinking. Co-workers perceive that heavy drinkers have lower performance, problems in personal relationships and lack of self-direction, though drinkers themselves do not necessarily perceive effects on their work performance

- *Unemployment*- Heavy drinking or alcohol abuse may lead to unemployment and unemployment may lead to increased drinking.

### ALCOHOL WITHDRAWAL SYNDROME (AWS)<sup>9</sup>

Persons may experience a combination of physical and emotional symptoms, from mild anxiety and fatigue to nausea. Some symptoms of AWS are as severe as hallucinations and seizures. At its most extreme and can be life-threatening. Alcohol withdrawal symptoms can begin as early as two hours after the last drink, persist for weeks, and range from mild anxiety and shakiness to severe complications, such as seizures and delirium tremors (also called DTs). The death rate from DTs is estimated to range from 1% to 5%. Because alcohol withdrawal symptoms can rapidly worsen, it's important to seek medical attention even if symptoms are seemingly mild. Appropriate alcohol withdrawal treatments can reduce the risk of developing withdrawal seizures or DTs. People who are addicted to alcohol, or who drink heavily on a regular basis and cannot gradually cut down, are at high risk, AWS is more common in adults, but children and teenagers who drink excessively may also experience the symptoms. Those who are at the risk of AWS if they have previous withdrawal symptoms or needed medical detox for a drinking problem.

### ANTI-ALCOHOL MEDICATIONS<sup>10</sup>

Three drugs are specifically approved to treat alcohol dependence:

**Anticraving:** Naltrexone

Acamprosate

**Anti abuse/ aversion drug:** Disulfiram-

**Other Drugs**

**Topiramate** (Topamax) is an anti-seizure drug used to treat epilepsy. It also helps control impulsivity. Studies indicate it may help treat alcohol dependence. In one well-designed study, patients who took topiramate had fewer heavy drinking days, fewer drinks per day, and

more continuous days of abstinence than patients who received placebo. Side effects included burning and itching skin sensations, change in taste sensation, loss of appetite, and difficulty concentrating. **Baclofen** (Lioresal) is a muscle relaxant and antispasmodic drug. It is being investigated for its benefits in helping maintain abstinence, particularly in patients with alcohol.

#### OTHER THERAPIES FOR ALCOHOLISM

##### Psychotherapy and Behavioral Methods

Standard forms of therapy for alcoholism include:

- Cognitive-behavioral therapy
- Combined behavioral intervention
- Interactional group psychotherapy based on the Alcoholics Anonymous (AA) 12-step program

Comparison studies have reported that these approaches are equally effective when the program is competently administered. Specific people may do better with one program than another.

##### Treating Sleep Disturbances

Nearly all patients who are alcohol dependent suffer from insomnia and sleep problems, which can last months to years after abstinence. Sleep disturbances may even be important factors in relapse. Available therapies include sleep hygiene, bright light therapy, meditation, relaxation methods, and other nondrug approaches. Many medications for inducing sleep are *not* recommended for people with alcoholism.

##### Alternative Methods

Some people try alternative methods, such as acupuncture or hypnosis. Such approaches are not harmful.

In one study, acupuncture reduced the desire for alcohol in nearly half of people, although it was not significantly more helpful than conventional treatments. Significant number of patients being hospitalized is having the history of alcoholism. The available evidence suggests that **3 to 45 %** of household expenditure is spent on alcohol. Use of alcohol increases indebtedness and reduces the ability to pay for food and education. Alcohol consumption has been steadily increasing in developing countries like India and decreasing in developed countries since the 1980s. **62.5 million** Alcohol users estimated in India. The pattern of drinking to intoxication is more prevalent in developing countries indicating

higher levels of risk due to drinking<sup>6, 11</sup>. Harmful use of alcohol is one of the world's leading risk factors for morbidity, disability and mortality. It is a component cause of more than 200 disease and injury conditions. In 2012, about 3.3 million deaths, or 5.9% of all global deaths, were attributable to alcohol consumption.<sup>12</sup> The need of the present study has various reasons, the people were found to be alcoholic to get relief from pain and they found a relaxation in taking alcohol. Day to day increasing the risk of suicidal attacks, people who are having the attitude to attempt suicide intentionally choose alcohol as one of the source.

Alcohol causing **dependence** thereby causing a great threat to the family and society, day to day there was a increased rate of suicidal attitude such people were choosing alcohol as one of the source. Alcohol also causes lot of **medical complications** (cardiovascular diseases, diabetes mellitus, liver diseases etc) to human body and increases the risk of diseases. Some people drink alcohol for tradition /modern lifestyle habits with known harm. Tribal people, rural area people take alcohol for relaxing purpose without knowing the harm and the exact harm of taking this poison is not known by the common people so we do this study to create awareness among public, about alcoholic complications and to implement de-addiction programme through the assessment of:

- ✓ Risk level of dependence using AUDITquestionnaire
- ✓ Severity of harmful alcohol consumption in general population by using SADQ.
- ✓ Withdrawal symptoms of alcohol by using CIWA questionnaire.

#### METHODOLOGY

**Study Site:** Rajiv Gandhi Institute of Medical Sciences (RIMS), Government Hospital, Kadapa, A.P.

**Study Design:** Prospective Interventional Study.

**Study Duration:** 6 months

**Study Sample Size:** 51 members.

**Study Subjects:** Chronic alcoholic users willing for de addiction who satisfy study criteria.

## Patient Enrolment

### Inclusion Criteria:

Including the persons those who are willing to stop alcohol irrespective of their alcohol use, gender and age.

### Exclusion Criteria:

Excluding the social drinkers

Excluding those who are not willing to participate

### Materials:

**Patient Informed Consent Form** Informed consent is a legal procedure to ensure that a patient, client, and research participants are aware of all the potential risks and costs involved in a treatment or procedure.

**Patient Data Collection Form** collects the demographic details of the subject, chief complaints, present and past history of illness, allergies, personal history and habits, family history, vitals, reason for drinking alcohol, history of taking alcohol, knowledge about effect of alcohol in the body, reason for quitting alcohol and number of attempt made, the current medication use, treatment progress with discharge medication for those patients with severe alcohol dependence under gone for anti alcohol treatment.

**Patient Information Leaflet (About Alcoholism)** Patient information leaflet includes what is alcohol, the myths and facts about alcohol, epidemiology of alcohol, and effect of alcohol on various organs, about withdrawal symptoms and its management, along with strong motivational interview which will help the subjects to manage their life without alcohol include methods to overcome the alcohol craving, and counseled them about the diet to be followed to get out of alcohol. The leaflet also contains the contact information for patients, if they needed to seek for help.

**AUDIT Questionnaire**<sup>13</sup> This questionnaire is designed to indicate whether your drinking is harmful, hazardous or dependent. The ten questions are about your use of alcohol during the past 12 months.

### Scoring of AUDIT:

< 8 - sensible drinking or low risk,

8-19 - Harmful or hazardous drinking - drinking at the current level puts the patient at moderate risk of developing problems. Consider cutting down, or seeking for de addiction.

≥ 20 - Indicates that the present status of drinking is already causing problems, and the patient could be at high risk and dependent, so should definitely stop or reduce drinking. Should seek for de addiction

Note: If score is **16 or over**, consider taking the Severity of Alcohol Dependence Questionnaire

**SADQ**<sup>14</sup> It is a measure of the severity of dependence. The AUDIT questionnaire, by contrast, is used to assess whether or not there is a problem with dependence. The SADQ questions cover the following aspects of dependency syndrome:

- ✓ Physical withdrawal symptoms
- ✓ Affective withdrawal symptoms
- ✓ Relief drinking
- ✓ Frequency of alcohol consumption
- ✓ Speed of onset of withdrawal symptoms

### Scoring of SADQ:

>31 - severe alcohol dependence

16-30 - moderate dependence

<16 - mild physical dependency

### CIWA Questionnaire Form

<sup>15</sup>

It is a ten item scale used in the assessment and management of alcohol withdrawal. Each item on the scale is scored independently, and the summation of the scores yields an aggregate value that correlates to the severity of alcohol withdrawal, with ranges of scores designed to prompt specific management decisions such as the administration of benzodiazepines.

### Scoring of CIWAQ

>20 severe

16-20 moderate withdrawal

≤15 mid withdrawal

The ten items evaluated on the scale are common symptoms and signs of alcohol withdrawal, and are as follows:

- ✚ Nausea and vomiting
- ✚ Tremor
- ✚ Paroxysmal sweat
- ✚ Anxiety
- ✚ Agitation
- ✚ Tactile disturbances
- ✚ Auditory disturbances
- ✚ Visual disturbances
- ✚ Headache
- ✚ Orientation and clouded sensorium

The goal of the CIWA scale is to provide an efficient and objective means of assessing alcohol withdrawal.

#### **Ethical Approval**

The study was approved by the institutional ethical committee RIMS, kadapa. (RC.NO.5077/Acad/2014, dated:19-01-2015).

#### **Study Procedure**

We have recruited alcohol users randomly as per study criteria after obtaining the ICF. The required data for the present study have collected with the two sets of data collection Forms by "Interviewing the subjects and the care takers". The data collected includes patient demographics, alcohol use history, past medical and medication history. Awareness about alcohol usage have been provided and the individuals were selected based on their willingness to alcohol cessation motivated by clinical pharmacist or by family members. Informed consent was taken from the alcohol users. A detailed intervention was done by using anti-alcohol treatment or by counselling.

#### **Anti Alcohol Treatment**

Anti-alcohol treatment is the procedure for alcohol de addiction with the help of drugs. The treatment was used in both in-patient and outpatient department. It's a four step process were in the first step the patient was admitted or treated as an outpatient, after admitting the patient subjected for diagnosis both the mental status examination and the physical examination to identify the underlying or other co-morbid diseases. Then the patient was subjected to the next step called detoxification, it's the second step in the de addiction. In this step we have included both the in-patient as well as the outpatient and have been treated for the alcohol withdrawal symptoms with the help of benzodiazepines, anti-depressants and anti-psychotics if necessary. Along with medication fibre rich foods, water also used for the detoxification. This treatment was continued until subject got totally recovered from the withdrawal symptoms. This period is called as the wash out period. After the complete recovery the patient was subjected to the third step that is de addiction and counselling either by aversion therapy or by anti-craving therapy. In the aversion therapy the patient was treated with drugs like disulfiram. In anti-craving therapy subjects were treated with acamprosate. This treatment was continued for 20 days and thereby

followed by individual counselling, group counselling and family counselling with regular follow up. Continually From 52 subjects, 15 were subjected to de-addiction with treatment, 37 subjects comes under mild to moderate risk or severity, they were subjected to strong motivational interview and patient counselling. The 15 subjects with withdrawal symptoms were under gone for detoxification with high dose benzodiazepines which suppresses the CNS and produces the similar effect like alcohol, then the dose were gradually tapered. Diazepam was the drug of choice. Along with it any antipsychotic for those with psychiatric symptoms, propranolol for withdrawal tremors and methylcobalamine or any thiamine supplement for nerve demyelination or for new cells instead of damaged cells in the brain. The therapy was continued until the subjects get totally recovered from the withdrawal symptoms for 7 to 10 days. After the completing the detoxification the subject are discharged with acamprosate 333mg, the frequency of the tablet is depending upon the patient condition.

#### **Statistical analysis**

The data was pooled, analysed statistically and results were formatted as per study objectives. Comparison of pre and post interventional data results were expressed as percentage (%) and data was analysed by using Chi-square test & paired-t test.

#### **RESULTS**

During the study period total of 412 subjects were interviewed out of which 150 were found to be alcoholic and the prevalence rate was 2.75. From 150 alcoholics, 99 were excluded as 66 were not willing to participate in the study and 33 were social drinkers and 51 subjects participated in the studied.

#### **Demographics**

**Table 1** explains the demographics of the study subjects. Among 51 individuals 94.1% (48) males and 5.8% (3) females were addicted to alcohol. Among 51 individuals 50.98% (26) of subjects were comes under the age group of 40-50yrs. 35.2% (18) were 29-39 yrs. and 7.84%(4) were of age 18-28 and 5.8% (3) individual were in 51-61yrs. Majority of individuals from the age group of 40-50 were found to be alcoholics. Among 51 subjects 96.07% (49) were employed and 3.92% (2) were unemployed. Majority of alcoholics were employees

Among 51 subjects 86.27% (44) were married and 7.82% (4) were unmarried and 5.88% (3) were known to be divorced individual. So that majority of individual were married. Among 51 recruited individuals 82.35% (42) of the individual were found to be literate, 17.64% (9) of the individual were found to be illiterate. In our study out of 51 recruited individuals, 56.86% (29) of the individual from urban areas and 43.13% (22) of the individuals were from different rural areas.

#### **Reasons and type of alcohol beverages consumption**

Among 51 recruited individuals 37.25% (19) of the individuals had habituated to alcohol because of heavy work, 21.56% (11) of the individuals for pain relief, 17.64% (9) of the individuals by friends influence, 15.68% (8) of the individuals for stress relief, 7.84% (4) of the individuals as passion. Among 51 subject 60.78% (31) individual were consuming mixed type of alcohol, 17.6% (9) subjects were taking whisky and 11.76% (6) of subjects were taking brandy, 5.82% (3) subjects were taking cheap liquor, 1.96% (1) person was taking beer. So that majority of individual were consuming mixed type of alcohol

#### **Starting age of alcohol consumption**

Among the total recruited individuals 62.74% (32) individuals were started to consume alcohol between the age group of 15-25yrs, 29.41% (15) individuals were started between the age group of 26-36yrs, 5.88% (3) of the individuals were between the age of 37-47 yrs, 1.96% (1) of the individuals were started between the age of 48-58 yrs.

#### **Complications of Alcoholism Observed In Study Subjects**

Out of 51 individuals we have observed 18 complications, out of which 50% (9) of them were found to be suffering with alcohol dependence syndrome, 11.11% (2) were found to be suffering with liver cirrhosis, Ascitis & anemia, 5.55% (1) of them were found to be suffering with depression, hepatitis & alcohol induced psychosis

#### **Duration of alcohol use**

Among 51 subjects 56.86% (29) individual were consuming alcohol since 5-10 yrs. And 35.29% (18) members were consuming since more than 10 yrs. And 5.88% (3) were consuming since 1-4 yrs. Majority of individual visiting hospital were taking alcohol since 5-10 yrs.

#### **Awareness of alcohol complications**

Among 51 recruited individuals 64.71% (33) of the individuals were unaware of alcoholic complications/harm, 35.71% (18) of the individuals were aware about the harm of alcohol consumption.

#### **Co morbid Diseases in Alcoholics**

A total of 36 individuals have 17 types co morbidities were observed, out of which 47.06% (8) of were affected with all other diseases such as angina, MI, malaria, viral fever, chololithiasis etc., 17.65% (3) of the individuals were suffering from diabetes and hypertension, 11.76% (2) of the individuals were affected with asthma, 5.88% (1) of the individual were affected with tuberculosis

#### **Previous attempt to quit alcohol**

Among 51 individuals (86.27%) 44 individual were never tried to quit alcohol and 9.80% (5) members were tried once to quit and 3.92% (2) individual tried twice to quit alcohol use.

#### **Quantity consumes per day**

Among the 51 recruited individuals 74.50% (38) of the individuals were consuming alcohol between 0-1.9 quarters per day, 11.76% (6) of the individuals were consuming alcohol between 2-3.9 quarters per day, 7.84% (4-5.9) of the individuals were consumes alcohol between 4-5.9 quarters per day, 5.88% of the individual were found between consumes alcohol between 6-7.9 quarters per day.

#### **Withdrawal**

##### **Symptoms**

Among the 51 recruited individuals anxiety was the commonest withdrawal symptoms found in 31 of individuals, 30 individual were experienced tremors, 28 individuals with visual disturbances, 27 individuals were experienced headache and fullness in head, 26 individuals were experienced tactile disturbance, 25 individuals with paroxysmal sweat, 19 individuals with agitation 19 were experienced nausea & vomiting, 13 were experienced orientation & clouding of sensorium and 7 individuals were experienced auditory disturbances.

#### **Assessment of Risk of Dependence in Study Subjects**

Among 51 subjects 23 (45.10%) of individuals were at moderate risk of dependence, 13 (31.37%) of individuals were at high risk, 12 (23.53%) of individuals were

at low risk of dependence. **Figure 1** explains the risk of dependence.

#### Assessment of Severity of Dependence using SADQ

Among the 51 individuals 68.62% (35) of the individual were found to be within the category of mild severity, 15.69% (8) of the individuals with moderate severity, 15.69% (8) of the individuals were severe according to the severity assessment scale. **Table 2** explains the rate of severity of dependence according to SADQ.

#### Assessment of Severity of Withdrawal Symptoms using CIWA

Among 51 individuals 80.39% (41) of the individuals were showed mild withdrawal symptoms, 11.76% (6) of the individuals were showed severe symptoms, 7.85% (4) of the individuals were with moderate withdrawal symptoms, which is tabulated in **Table 3**.

#### Alcohol drug interactions

A total of 36 prescriptions were found to have possible alcoholic-drug interactions, and 8 interacting drugs are involved, out of which 4 drugs had severe interactions, 3 of the drug had moderate interaction, and 1 of the drug had mild interaction with alcohol. We found Liv 52 was prescribed in 10 (42%) alcoholic prescriptions, followed by paracetamol, nitroglycerin and CPM were encountered 3 times (12%), insulin and propranolol was encountered for 2 times (8%), and Isoniazid and Metronidazole was encountered for 1 time (4%).

#### De-Addiction Interventions

##### *Patient counseling/motivation*

In this intervention we counseled, educated and motivated the 51 alcohol users to reduce or to quit alcohol use during the study and we found that 31 individuals have quit totally 8 individuals reduced and 13 were unable to quit. In this study the recruited individuals experience side effects such as anxiety, swelling in hands and feet. Free clinics present an untapped opportunity to reduce alcohol harm in population at high risk for alcohol morbidity and mortality. Therefore pharmacists are effective providers of alcohol cessation services and can serve as a model to guide pharmacist in assisting more patients to become alcohol free and new healthier life style. **Table 4** explains the intervention procedures followed.

#### Outcome of intervention

Among 35 individuals recruited in our study 65.72% (23) of individuals were totally quit alcohol by patient counseling and motivation, 20% (7) of the individuals were unable to quit alcohol, 14.28% (5) of the individuals were reduced their alcohol consumption. **Figure 2** explains the outcomes of patient counseling intervention. Among the 16 recruited individuals 16 of the individuals were under gone for anti-craving therapy with acamprosate, 68.75% (11) of the individuals were completely quitted alcohol, and 31.25 (5) of the individuals were unable to quit alcohol. **Table 5** explains the Anti-Craving Intervention. **Figure 2** explains Outcomes of patient conseling intervention.

#### STATISTICAL ANALYSIS

**Table 6** Explains age wise distrubution

By using chi-square test,  $\chi^2 = \frac{\sum (oi - ei)^2}{ei}$

Null hypothesis = There is a significant difference between age and type of alcoholics

**P (0.05) = 19.675**

$\chi^2$  calculated value = 8.59

**p (0.05) >  $\chi^2$  value**

so null hypothesis is accepted, there is a significant difference between age and type of alcoholics

**Table 7** explains the De- Addiction Therapy outcomes. Among 51 individuals 18 individuals were found to be mild, 17 were found to be moderate alcoholics, 16 were found to be severe alcoholic, 66.66% of the individuals were totally quitted alcohol, 23.52% of the individuals were unable to quit alcohol, and 9.81% of the individuals were reduced consuming alcohol.

$t = \frac{\bar{d}}{\sigma/\sqrt{n}}$  (paired t test)

$\sigma = \sqrt{\frac{1}{n} (d - \bar{d})^2}$

Null hypothesis (H<sub>0</sub>) = There is no significance difference between before and after treatment

**t<sub>calculated value</sub> = 5.69**

**P (0.05) = 4.3, t<sub>cal</sub> > p (0.05)**



Reject of  $H_0$ . Hence there is a significance difference between before and after treatment (most of the patients are better after treatment).

#### DISCUSSION

Addiction to alcohol is the major contributor to morbidity and mortality. About 2 billion people worldwide consume alcoholic drinks, which can have immediate and long term consequences on health and social life. Over 76 million people are currently affected by alcohol use disorders, such as alcohol dependence and abuse.<sup>6</sup> Alcohol causes 2.5 million deaths a year, which represents 3.2% of all deaths worldwide. Unintentional injuries account for about a third of the deaths from alcohol. Mortality because of alcohol addiction is high in developed countries and low in only few developing countries. About 62.5 million alcohol users were estimated in India. In a year almost 3 million people are developing alcoholic complications and more than one million alcoholic deaths were estimated in India. In Andhra Pradesh nearly 5 million people are habituating to alcohol. Due to its large population, India has been identified as the potentially third largest market for alcoholic beverages. In this study we found that more than 30 % of people have found to be addicted out of 412 people.

About 80% of alcohol consumption is in the form of hard liquor or distilled spirits showing that the majority drink beverages with a high concentration of alcohol, which increases the chances of morbidity and mortality, in this study 35.2 % of alcoholics had developed alcoholic complications. The mean age of initiation of alcohol use has decreased from 23.36 years in 1950 to 1960 to 19.45 years in 1980 to 1990 in our study we found that most of the alcoholics have started alcohol consumption in between 15 – 20 years. India has a large proportion of lifetime abstainers (89.6%). The female population is largely abstinent with 98.4% as lifetime abstainers, we also observed same in our study, males (94.1%) were more as they don't have more abstainers; habit of alcohol is more in this population and only 6 % females were addicted to alcohol.

Males mostly drink alcohol due to the possible reasons that might have been forced by friends, stress, heavy work, **Sejla et al**<sup>16</sup> study revealed that most of the people are taking alcohol to avoid stress and females' drinks alcohol nowadays due to heavy work and

stress due to their family problems and influencing by western life style and changing the scenario. A total of 34 subjects had quit alcohol use, 5 had reduced the alcohol use, 12 were not able to quit because of omission of dose, personal, family and environmental conscience. We found that 40-50 yrs of age group people were mostly adapted to alcoholism controversial to our study **Aditya P S et al**<sup>17</sup> stated that 30-39 age group were more adapted. Majority of the individual in our study have the history of 5-10 years of alcohol consumption followed by more than 10 years and 1-4 years. When comparing employees and nonemployees, we found that the employed group is more prone to get addicted with alcohol due to heavy work and mental tension. **Beckram P et al**<sup>18</sup> also revealed the same. As per our study married people was found to more prone for drinking, this may be due to family problems and stress, **Aditya PS et al**<sup>14</sup> supports our study. **James m et al**<sup>19</sup> apposed our study. We observed that urban people are found to be heavy drinkers (56.86%) when compared to rural and **Grainne et al**<sup>20</sup> study supports the same. Urban people drinks more due to modern life style and passion. The percentage of alcohol consumption has raised up to 82.35% in literates, as these people knows about the benefits and drawbacks of alcohol, but failing to control. In existing beverages, majority of subjects consumed mixed form of beverages (60.78) depending upon the availability and least consumed is beer (1.96), followed by whisky, brandy, cheap liquor, rum, beer, among them least consumed is beer (1.96) and a previous study conducted by **Dana EK et al**<sup>21</sup> also concluded that the mixed forms are consumed more. Our study revealed that most of the subjects are unaware about the complications/harm of alcohol use. Majority of alcoholics were found to have diabetes and hypertension, asthma, and tuberculosis. In these conditions consumption of alcohol is a risk factor and which may aggravate the disease condition, these people has to de-addict as early as possible to prevent complications. Our study revealed that 86 % alcoholics were not made an attempt to quit, this may be due to they are unaware of de-addiction process, wants to enjoy the pleasure of taking alcohol or may not be knowing about the harm/danger.

Before de-addiction therapy majority of the subjects (74.50%) were consumed 0.5-1.9 quarters per day and 25.5 % were consumed 4-5.9 quarters per day. generally normal daily allowable quantity is 0.27 quarters, but all the study subjects were consumed more than the limit, which indicates that all the study subjects were at the risk of developing alcohol morbidity and need to be de-addicted from alcoholism. Risk associated with alcohol use was assessed through AUDIT questionnaire before intervention. 45 % were at moderate risk 31 % alcoholics were at high risk i.e. majority of individuals have more chances of developing risk associated with alcohol use. **Beckram P et al**<sup>15</sup> revealed that 67 % were found to be hazardous alcoholic drinkers. Severity of dependence was estimated through SADQ score 68.7% were Mild dependents, so initiation of de-addiction therapy at this stage is more useful and most of the addicts can be de-addicted successfully. Alcohol withdrawal symptoms was estimated through CIWA score, 80.38% were experienced mild withdrawal symptoms before initiation of intervention, generally for initiating anti craving therapy, the ranges of these scores designed to prompt specific management decisions. Anxiety (60.78%) was found to be the most observed withdrawal symptom followed by tremors, visual disturbances, head ache, tactile disturbances, paroxysmal sweat, agitation, nausea and vomiting, orientation and clouding of sensorium, and auditorial disturbances. Anti craving therapy was initiated in 16 alcoholics after detoxification (removal/minimization of alcohol withdrawal symptoms) treatment with appropriate drugs like diazepam, lorazepam, propranolol, thiamine and etc.... almost 70 % were de-addicted and remaining were unable to quit alcohol due to their non-compliance and other constrains. For remaining 35 subjects motivational therapy was given by using leaflet and personnel education/counseling to alcoholics and their family members. through this intervention 65 % were quit alcohol, 14 % were reduced the their alcohol consumption and 20 % were not able to do either of the above., as they may not able to follow the instructions due to their life style, family noncooperation, occupancy and etc... So, the given intervention had proven its importance.

We have also tried to find the alcohol-drug interactions in an attempt to minimize the interactions and provide better care in the study subjects receiving medications for their anomalies. out of 36 prescriptions only 8 possible interactions were observed of which 4 were severe alcohol-drug interactions. Among the evaluated prescriptions LIV 52 (40%) was encountered most, which is having more chances of developing interaction with alcohol followed by Acetaminophen, Nitroglycerin, CPM, propranolol, insulin, Isoniazid and Metronidazole. Totally 66.66% of the addicts quit alcohol with patient counseling and de-addiction therapy, 9.81% of individuals had reduced their alcohol consumption and 23.52% was unable to quit due to irregular medication. this shows the importance of initiation of de-addiction programmes by the government with the help of health care professionals to minimize the alcohol consumption and its complications. Previous studies by **Jonas D.E et al**<sup>22</sup> and **Rösner S et al**<sup>23</sup> also supports our study, that acamprosate have best evidence to improve in alcohol consumption outcomes for patients with alcohol use disorders. Some of the studies shown less success rate in alcohol de-addiction through Acamprosate due to its less effectiveness when compared to disulfiram or naltrexone, but these two drugs are having some drawbacks i.e. disulfiram produces more adverse effects and naltrexone is having unpleasant side effects as well as costlier drug. Patient counseling or motivation therapy for the individuals willing to quit alcohol is most economic and beneficial in mild alcoholics, but alone it may not be useful in severe alcoholics. Therefore pharmacists are effective providers of alcohol deaddiction program and can serve as a model to guide pharmacist in assisting more patients to become alcohol free and live healthier life style. A study done by **Niederhofer H et al**<sup>24</sup> shows the success rate for the treatment with acamprosate was 79% but in our study the success rate for acamprosate treatment is 68.75%, and most of the alcohol deaddiction studies shows 60-70% success rate and overall success rate in our study is 66.66%. the main reason for a hike in success percentage of our study is due to the initiation of de addiction programme at early stages of alcohol addiction.

**Table 1: Demographics of the Study Subjects**

Gender	Number of patients (n=51)	Percentage
Male	48	94.1%
Female	3	5.8%
<b>Age</b>		
18-28	4	7.84%
29-39	18	35.2%
40-50	26	50.98%
51-61	3	5.8%
<b>Employment status</b>		
Employed	49	96.07%
<i>Engineer</i>	2	4 %
<i>Coolly</i>	30	61 %
<i>Watch man</i>	4	8 %
<i>Police</i>	7	14 %
<i>Business</i>	6	12 %
Un Employed	2	3.92%
<b>Marital status</b>		
Married	44	86.27%
Unmarried	4	7.84%
Divorced/widow	3	5.88%
<b>Educational status</b>		
literate	42	82.35%
illiterate	9	17.64%
<b>Residence</b>		
Rural	22	43.13%
Urban	29	56.86%

**Table 2: Rate of Severity of Dependence According To SADQ**

Severity	Male	Female	total	Percentage
Mild (<16)	34	1	35	68.62%
Moderate (16-30)	7	1	8	15.69%
Severe (>31)	7	1	8	15.69%

**Table 3: Rate of Severity of Withdrawal Symptoms According To CIWA**

Rate of withdrawal symptoms	No. of patients, n= 51	Percentage
Mild (≤15)	41	80.39%
Moderate (16-20)	4	7.85%
Severe (>20)	6	11.76%

**Table 4: Intervention Procedures Followed**

Intervention	Number of patients n=51		Total	Percentage
	Male	Female		
Patient counseling/motivation	35	0	35	68.62%
De-addiction therapy	13	3	16	31.38%

**Table 5: Anti-Craving Intervention**

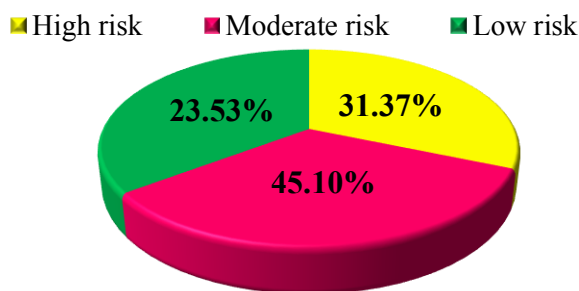
Out come	Number of patients n= 16	Percentage
Quit	11	68.75%
Unable to quit	5	31.25%
Total	16	100%

**Table 6: Age wise distribution**

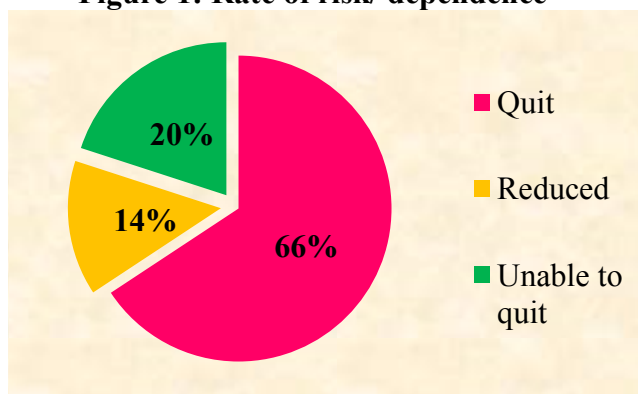
Age	low	moderate	Severe	Total
18-28	3	5	0	8
29-39	6	4	6	17
40-50	9	7	7	23
51-61	0	1	2	3
Total	18	17	16	51

**Table 7:De-Addiction Therapy Outcomes**

Type of alcoholics	Outcome			Number of patients n=51
	Quit	Reduced	Unable to quit	
Mild	14	0	4	18
Moderate	9	5	3	17
Severe	11	0	5	16
Total	34	5	12	51
percentage	66.66%	9.81%	23.52%	100%



**Figure 1: Rate of risk/ dependence**



**Figure 2: Outcomes of patient counselling intervention**

**CONCLUSION:**

With our study we conclude that 40-50 years age group population and employed male population were more addicted to alcohol due to their heavy work (professional and family burdens) and stress, so stress relief programmes (like personnel counseling, meditation, yoga, music, behavioral therapy and laughing therapy) should be conducted for

this population periodically. In the ongoing generation, females are also addicting to alcohol, this should be addressed specifically to the health departments of the nation by all health care professionals. We also conclude that the teenagers should be monitored closely concerning their life style by their parents to minimize early age alcohol consumption, as we have found that the starting age of

alcoholism is from 15yrs, and also counseling programmes should be conducted in schools and colleges. By this we conclude that the government has to take initiation in controlling the alcohol trafficking especially in childhood. Government is also need to instruct strictly the health care professionals and public regarding the benefits of deaddiction programmes. So the clinical pharmacist is the logical and in many cases the only candidate for providing the cognitive behavioral counseling and motivation that are keen to quit alcohol successfully. The tragic health consequences of alcohol use can be significantly reduced if alcohol deaddiction interventions are delivered in a timely manner.

#### **Suggestions:**

- ❖ Each and every hospital should have a de addiction center in active
- ❖ Conduct de addiction programs and counselling periodically in all schools and collages

#### **Conflict of Interest**

No conflict of interest

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