

# “EVALUATION OF PSYCHOLOGICAL DISTRESS AMONG PATIENTS CONSUMING TOBACCO AND ALCOHOL AT TERTIARY CARE HOSPITAL IN DHARMAPURI”

*Dissertation Submitted to*

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*In partial fulfillment for the award of degree of*

**MASTER OF PHARMACY**

In

**PHARMACY PRACTICE**

Submitted by

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**(261940703)**

Under the guidance of

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**PERIYANAHALLI, DHARMAPURI- 635 205, TAMILNADU**

**OCTOBER 2021**

## **CERTIFICATE**

This is to certify that this dissertation work entitled “**EVALUATION OF PSYCHOLOGICAL DISTRESS AMONG PATIENTS CONSUMING TOBACCO AND ALCOHOL AT TERTIARY CARE HOSPITAL IN DHARMAPURI**” Constitutes the original work Carried out by **ASEEL ABDUL MAJEED (Reg.No:261940703)**, under the guidance and supervision of **Dr.V.PALANIVEL M.Pharm., Ph.D.**, Professor & Head Department of pharmacy practice, Padmavathi college of pharmacy and Research Institute, Periyanaahalli, Dharmapuri, Tamilnadu - 635205.

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## **DECLARATION**

I Hereby I declare that this thesis work “**EVALUATION OF PSYCHOLOGICAL DISTRESS AMONG PATIENTS CONSUMING TOBACCO AND ALCOHOL AT TERTIARY CARE HOSPITAL IN DHARMAPURI**” has been originally carried out by myself under the supervision and guidance of **Dr.V.Palanivel, M.Pharm., Professor & Head.**, Department of Pharmacy Practice, Padmavathi college of Pharmacy & Research Institute, Dharmapuri, Tamilnadu-635205. This work has not been submitted for any degree at any University.

Place: Dharmapuri

Date:

**ASEEL ABDUL MAJEED**

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## **EVALUATION CERTIFICATE**

This is to certify that dissertation entitled “**EVALUATION OF PSYCHOLOGICAL DISTRESS AMONG PATIENTS CONSUMING TOBACCO AND ALCOHOL AT TERTIARY CARE HOSPITAL IN DHARMAPURI**” constitutes the original work carried out by **Mr.ASEEL ABDUL MAJEED** under the guidance and supervision of **Dr.V.Palanivel, M.Pharm., Professor & Head Department of Pharmacy Practice** Padmavathi college of Pharmacy and research Institute, Periyanahalli, Dharmapuri-635205, has been evaluated on \_\_\_\_\_

### **Evaluators:**

1.

2.

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**ASEEL ABDUL MAJEED**



**EVALUATION OF PSYCHOLOGICAL DISTRESS  
AMONG PATIENTS CONSUMING TOBACCO AND  
ALCOHOL AT TERTIARY CARE HOSPITAL IN  
DHARMAPURI**

## **1.INTRODUCTION**

Tobacco and alcohol use are two hazardous behaviours that commonly occur throughout adolescence in today's society. These are the leading causes of death that could have been avoided. Tobacco kills about 6 million people each year [1, 2], with one person dying every 6 seconds on average [1]. By 2020, this statistic is anticipated to rise to 10 million deaths each year, with China and India accounting for 7 million of them. Tobacco kills 0.8-1 million people in India each year, with many of these deaths occurring in children. Each cigarette smoked is projected to cost an average of five and a half minutes of life. 2.5 million people Each year, millions of people die as a result of their use of alcohol [3]. Tobacco use is predicted to kill 7.5 million people globally by 2020, accounting for 10% of all fatalities. Worldwide, alcohol-related deaths account for 3.8 percent of all deaths. These drugs are frequently combined. Tobacco-related diseases claim the lives of more than half of those receiving treatment for alcohol use disorders [4].

According to studies, persons who are addicted to alcohol are three times more likely to smoke, and people who are addicted to cigarette are four times more likely to be addicted to alcohol [4, 5]. According to the global statistics on alcohol and tobacco status report, smoking and drinking take away a quarter of a billion hours of healthy human life each year. One out of every seven adults smokes, and five out of every ten drink [5].

### **CONSUMPTION OF TOBACCO FACTS:**

#### **TOBACCO SMOKING: [6]**

Tobacco smoke contains about 4,000 compounds, more than 250 of which are recognised to be hazardous.

Males have much higher smoking rates than females.

Around 10 million cigarettes are purchased every minute around the world, 15 billion are sold every day, and upwards of five trillion are created and consumed each year.

Approximately 69 percent of smokers wish to give up altogether.

According to the WHO, half of all smokers will die as a result of their tobacco usage.

Every 8 seconds, a person dies as a result of tobacco usage.

Smoking reduces your life expectancy by 13 years on average.

**TOBACCO WITHOUT SMOKE: [7]**

- Tobacco that isn't smoked, snuffed, or chewed includes nicotine as well as a number of recognised carcinogens (cancer-causing substances).
- There are 28 carcinogens in smokeless tobacco.
- When chewing tobacco is used, more nicotine is absorbed than when smoking a cigarette.
- Chewing tobacco is linked to an increased risk of mouth cancer.
- Gum disease, dental decay, and tooth loss are among the numerous health dangers of chewing tobacco, as well suspected linkages to other malignancies, cardiovascular disease, and stroke.

**Table 1: Tobacco Product Classification [8]**

Tobacco smoking

- Tobacco Tobacco Tobacco Tobacco Tobacco Tobacco Tob
- Pipes

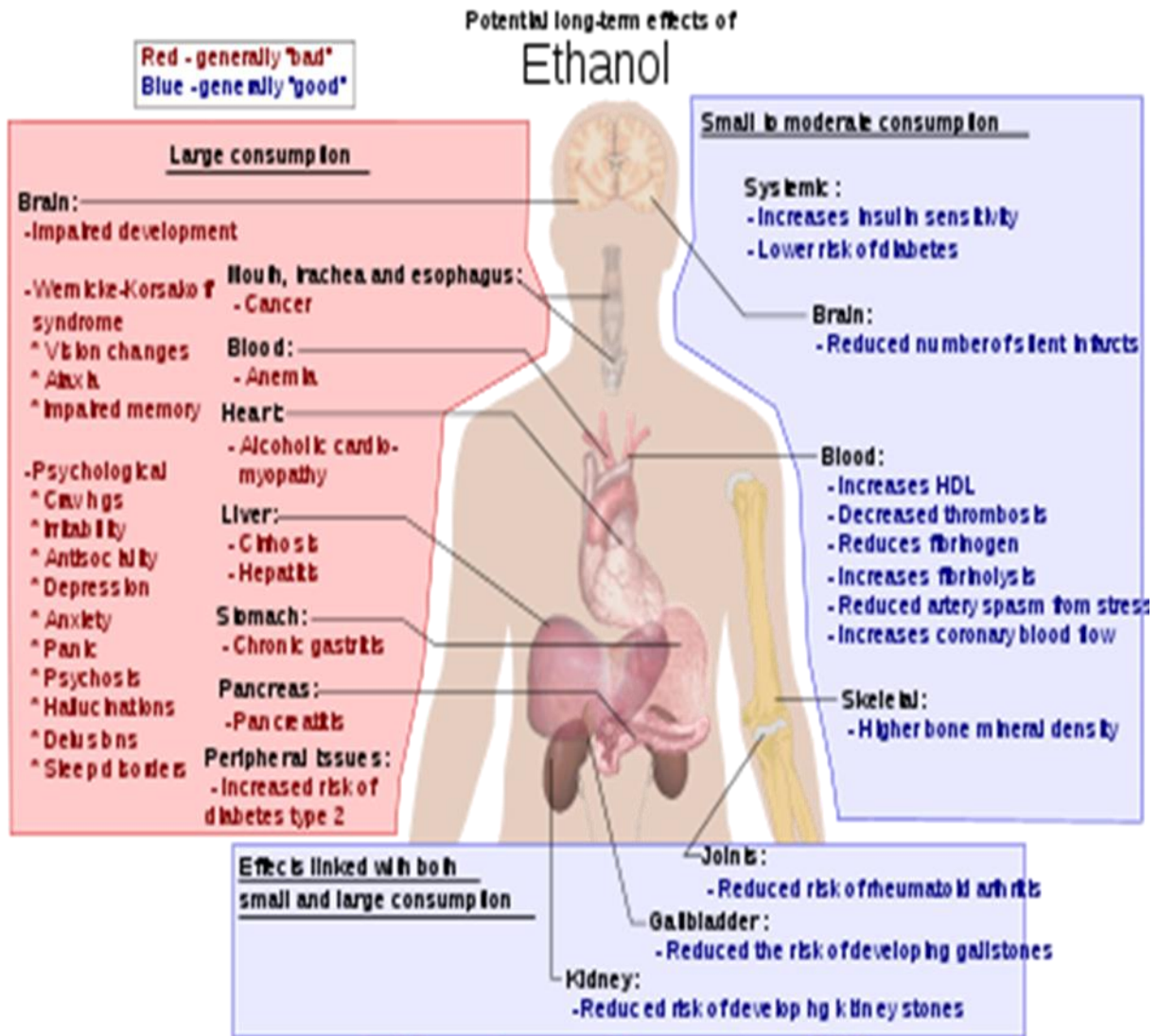
- Bidis
- Kretekesbetel



Tobacco products (Fig. 1)

**Tobacco that does not produce smoke**

- Snuffing (moist, dry, or in packets)
- Snus
- gutkha
- toombak
- tobacco with quid



**Figure 2:** Alcohol's long-term effects

The following are some of the most common signs and symptoms of alcohol abuse:

- Experiencing short-term memory loss or brief blackouts
- Having irritation and mood swings that are out of control
- Making up reasons to drink, such as to unwind, relieve stress, or feel normal.
- Prioritizing drinking over other commitments and responsibilities
- Isolation and estrangement from acquaintances and family members

- Drinking in private or alone
- Feeling hungover when you haven't had any alcohol
- Changes in your appearance and the people you hang out with.

**THE FACTS ABOUT ALCOHOL ARE AS FOLLOWS: [1, 9, 10]**

Alcohol is the most commonly used psychoactive substance, and it has long been recognised as a risk factor for more than 60 disorders.

Alcoholism is the third most common cause of death in the United States.

One person dies from alcohol every ten seconds around the world.

Binge drinking lowers response time and coordination by consuming large volumes of alcohol in a short period of time.

Smoking has been associated to reduced fertility, cervix cancer, and osteoporosis in women.

**Alcohol and Women: [1]**

Because of this, women are more vulnerable to the effects of alcohol.

The proportion of body fat to water in the body. Women have more fat and less water than men. Because alcohol is highly soluble in water, having less water in the blood results in a greater blood alcohol content.

Alcohol dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydrogenase dehydr More alcohol in the system means fewer enzymes.

## **Alcoholism and Its Consequences**

- Alcohol misuse can cause a wide range of problems in both personal and professional life. Long-term drinking puts you at risk for major health problems as well as other potentially life-threatening repercussions.
- One of the primary reasons why millions of people do not seek treatment for alcoholism is denial. Some people will attempt to justify their drinking habits. For example, you could blame your drinking on other people or events. When someone mentions an excessive drinking pattern, rather than acknowledging the issues caused by alcohol, act defensive. They restrict themselves from enjoying a good, sober life by refusing to recognise the detrimental effects of alcohol.

## **Alcoholism in Adolescents**

- Over the last few decades, an increasing percentage of teenagers have begun to abuse alcohol. Teenage drinking patterns differ substantially from adult patterns due to the fact that teenagers' brains are still maturing.
- Many adolescents who engage in underage drinking are unaware of the long-term consequences that can result from their actions. Peer pressure, the need to experiment, or the desire to have fun are among reasons why teenagers may turn to alcohol. Adolescent alcohol misuse can be influenced by a variety of behavioural, physical, and environmental factors.

## HOW MANY CALORIES ARE IN YOUR DRINK?



**Figure 3:** Different types of alcohol

### Risk to One's Health in the Short-Term[11]

Excessive alcohol use has immediate consequences that increase the risk of a variety of health problems. The following are some of the most common side effects of excessive drinking:

- Accidents, such as car accidents, falls, drownings, and burns.
- Homicide, suicide, sexual assault, and intimate partner violence are all examples of violence.
- Alcohol poisoning is a medical emergency that occurs when a person's blood alcohol level is too high.



- Dangerous sexual habits, such as unprotected sex or multiple partner intercourse. Unintended pregnancy or sexually transmitted infections, such as HIV, can occur as a result of these actions.

- Fetal alcohol spectrum disorders (FASDs) or miscarriage and stillbirth among pregnant women.

#### Risks to Long-Term Health[11]

Excessive alcohol use can lead to the development of chronic diseases and other major issues, such as:

- Hypertension, heart disease, stroke, liver disease, and gastrointestinal issues.
- Breast, mouth, throat, oesophagus, liver, and colon cancer.
- Immune system deterioration, increasing the risk of being ill.
- Learning and memory issues, such as dementia, as well as low academic achievement.
- Depression and anxiety are examples of mental health issues.
- Social issues, such as lost productivity, family issues, and joblessness.
- Alcoholism or alcoholism-related problems

#### **SMOKING'S PHYSIOLOGICAL AND PSYCHOLOGICAL EFFECTS:[12]**

- There are approximately 4,000 compounds in cigarettes, including arsenic, paint remover, and at least 60 carcinogens.
- Smoking has a negative impact on every organ system in the human body.
- Lung and heart disorders account for the majority of smoking-related deaths.

- Those with lower income and certain ethnic minorities are two sub-groups with high smoking prevalence.
- Nicotine affects the central nervous system's cholinergic and mesolimbic (dopaminergic) pathways.
- The major receptor driving nicotine dependence is the  $\alpha 5$  nicotinic receptor subtype.
- Repeated nicotine exposure leads to neuro-adaptation and tolerance, which leads to more smoking for the same pleasurable effect, as well as more smoking to escape withdrawal.
- Within 24 hours of quitting smoking, you'll notice a difference in your health.

#### Stress and Smoking: What's the Connection?

It is normal for smokers to self-medicate with cigarettes when they are stressed. While smokers believe that cigarettes reduce stress and anxiety, research has shown that the contrary is true, and that smoking can actually increase tension and anxiety as a result of Nicotine withdrawals.

Most smokers are more anxious than nonsmokers, while it is unclear if highly stressed persons start smoking or if their stress is caused by smoking.

#### **SMOKING AS A CAUSER OF PSYCHIATRIC ILLNESS:**

At the two extremities of the developmental timeline, namely ADHD and Alzheimer disease/dementia, there is significant evidence for a link between smoking and the onset or advancement of psychiatric problems. In the case of ADHD, a considerable body of research suggests that maternal smoking during pregnancy is linked to an increased risk of the disorder. It's still unclear whether maternal smoking is a cause of ADHD, with current study

suggesting that the link could be due to a shared familial/genetic predisposition to both smoking and ADHD. Nonetheless, it has been reported that children with ADHD born to mothers who smoked during pregnancy have more severe behavioural problems than children with ADHD born to nonsmoking mothers, with a dose–response relationship between the amount smoked and several cognitive and clinical variables in the children. In offspring, maternal smoking during pregnancy has been linked to grey matter loss and cortical thinning, as well as a functional change in brain circuitry involved in inhibitory regulation and reward.

Smoking is also linked to an increased risk of dementia and the development of Alzheimer's disease, according to epidemiological studies. Although the exact mechanism by which smoking causes CNS atrophy has yet to be identified, it is possible that these effects are mediated by the burden of cardiovascular impairment caused by smoking, as well as the cumulative direct cytotoxic effects of some of the thousands of compounds present in cigarette smoke. Although much more speculative at this point, a contributory role for smoking in the pathogenesis of other psychiatric disorders has been proposed. It has been suggested that nicotine's modulation of fear memory and emotion processing may contribute to the development and maintenance of anxiety disorders. Smoking's effects on the monoaminergic and glutamatergic systems, oxidative stress, and inflammatory and neurotrophic processes have all been linked to the neuropathological pathways underlying bipolar illness progression.

## **EFFECTS OF PSYCHOTROPIC MEDICATIONS ON SMOKING AS A MODULATOR:**

In terms of neuropsychological function, short-term nicotine administration improves components of cognition such as learning, memory, and attention in healthy people as well as people with schizophrenia, Alzheimer's disease, or ADHD.

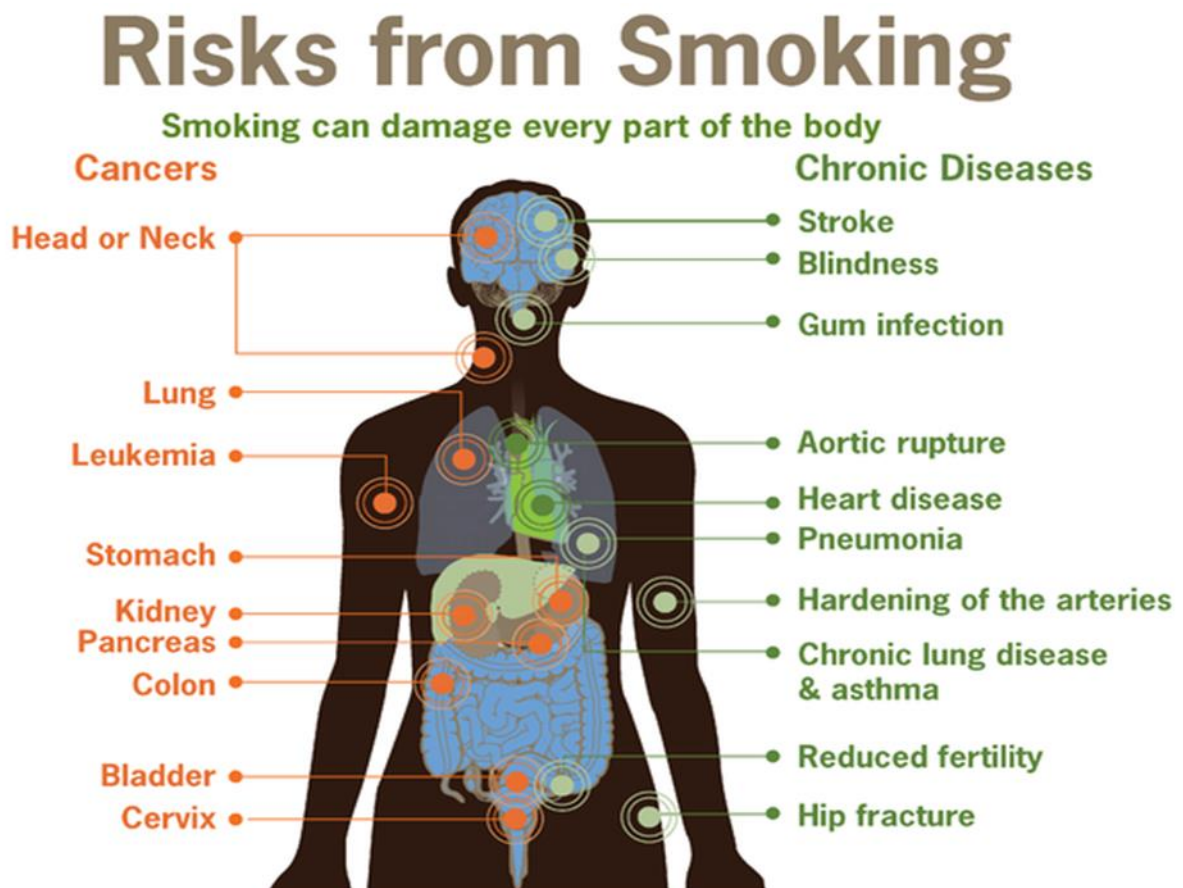
Chronic cigarette smoking, on the other hand, has been linked to cognitive function deficiencies in middle-aged to elderly persons, most notably verbal memory and processing speed.

Tobacco smoking is now linked to alterations in brain structure and neural circuitry in brain regions and systems that are clearly linked to a variety of psychiatric diseases. These findings, together with the high frequency of smoking in psychiatric populations, emphasise the need of incorporating smoking as a potential confounding variable in studies looking into the brain processes of mental diseases.

## **IN INDIVIDUALS WITH PSYCHIATRIC ILLNESS, SMOKING CESSATION:**

In the United States, it is believed that 40 percent of premature deaths caused by smoking occur in those who have a mental disorder. Smoking cessation may have a positive impact on psychiatric symptomatology in addition to its general health benefits. For example, a recent meta-analysis revealed reductions in anxiety and depression measures after quitting smoking, with an impact size at least as large as antidepressant therapies and a similar effect size in both the general population and groups with psychiatric illnesses. In people with psychiatric problems, the gradual decline in smoking prevalence reported in the general community in recent decades has not been observed. Although the reasons for this are undoubtedly complex, a recent systematic review and meta-analysis discovered that a large

proportion of mental health professionals have a negative attitude toward smoking cessation among psychiatric patients, believing that "patients are not interested in quitting" or that "quitting smoking is too much for patients to take on," and indicating a lack of training and time to assist patients with their smoking reduction efforts. This is unquestionably an issue that requires further attention.



Smoking is associated to poor fertility, cervical cancer, and osteoporosis in women. Pregnant women who smoke have a higher chance of miscarriage, stillbirth, early birth, low birth weight babies, and newborns who die of Sudden Infant Death Syndrome.

Women who start smoking in their early teens have an increased risk of acquiring breast cancer.

A woman who smokes and uses birth control pills has a higher risk of blood clots.

[4,9,13,14,15] PATHOPHYSIOLOGY

## MECHANISMS INVOLVED IN THE USE OF COMBINED ALCOHOL AND TOBACCO

### **Factors of genetic origin:**

Over the last decade, the importance of genetic factors on both drunkenness and smoking has acquired significant acknowledgment. Researchers have proven that both drunkenness and smoking have a high heritable component using behavioural genetic methodologies such as twin and adoption studies, as well as genetic epidemiology approaches. In general, heritability appears to be slightly higher for smoking-related variables (e.g., smoking initiation and persistence) than for alcoholism.

Furthermore, some researches have suggested that smoking and drinking share a significant hereditary risk.

To put it another way, genetic characteristics that raise the chance of smoking also increase the risk of drunkenness, and vice versa.

Depending on a person's age and gender, the relative contributions of hereditary and environmental risk factors may differ. According to one study, the combined risk of alcohol use and smoking in teens is mostly due to common environmental factors (e.g., peer effects), whereas in young adults, genetic factors play a substantial role.

Recent molecular genetic research have attempted to pinpoint particular genetic markers that may underpin different types of addictive behaviour. The dopaminergic reward system provides some of the strongest evidence for specific genes that may contribute to both

smoking and alcoholism. Dopamine is a neurotransmitter (brain chemical) that mediates communication between brain cells in certain brain areas. Some of these brain areas are involved in the rewarding (pleasant) effects of substances like alcohol and nicotine. Dopamine released by one brain cell interacts with certain protein molecules (receptors) on the surface of nearby cells to exert its actions, resulting in a biochemical reaction in those cells.

Certain variations of genes that influence the action of dopamine or its receptors may be linked to the risk of excessive alcohol use or smoking, according to some studies. The findings are only preliminary at this point, but the application of molecular genetic research methodologies to studies of complex behaviours like alcohol and nicotine addiction is rapidly improving and could provide significant findings within the next decade.

The formation of accurate and consistent endophenotypes for these addictive behaviours will most likely improve researchers' comprehension of genetic variables contributing to drunkenness and smoking. An endophenotype is a measurable and objective trait of a person that is assumed to be more closely linked to the individual's genetic composition (i.e. genotype) than traditional diagnostic classifications (e.g., alcohol abuse or dependence). The P300 component of the event-related brain potential is perhaps the best-known example of such an endophenotype in the world of drug addiction (ERP). ERPs are brain waves that are elicited as a result of a rapid stimulation (e.g., a light or sound). The P300 signal refers to a component of an ERP that can be detected roughly 300 milliseconds after the stimulus occurs.

It's supposed to indicate cognitive, or attentional, processing of new data. The magnitude of the P300 signal is frequently lowered in those who are at risk of becoming alcoholics. According to recent research, smokers may have ERPs with a lower P300 signal.

Researchers seek to uncover stronger correlations between these forms of addictive behaviour and certain genes by reproducing these findings and establishing more legitimate endophenotypes for alcoholism and smoking.

### **Mechanisms in the brain: [14]**

The significant link between alcohol and tobacco use could be due to a number of neurological factors. Both the ability of one drug to reduce the effects of the other drug (cross-tolerance) and the ability of one drug to increase the effects of the other drug (cross-reinforcement) may play important roles in mediating this relationship. Such processes could act immediately when alcohol and nicotine are combined, or they could involve changes in nerve cell function that occur over time with repeated use of either one or both drugs.

It's also possible that when the two medications are taken together, they provide a combined reward effect that's qualitatively distinct from either drug alone.

It is hypothesised that the development of tolerance (and, by extension, cross-tolerance) to both pleasurable and aversive drug effects aids in the establishment and maintenance of addiction. Tolerance to enjoyable pharmacological effects necessitates increasing drug dosages in order to produce the intended gratifying effects.

It's possible that persons who routinely take both alcohol and nicotine develop dependent on both drugs more quickly than people who only consume one drug, because tolerance develops at a faster rate. Smoking, on the other hand, may encourage alcohol consumption by causing an immediate (i.e. acute) kind of cross-tolerance. This means that smokers may be able to consume more alcohol since nicotine has a stimulatory impact that can directly



counteract both alcohol's sedative effects and the cognitive deficiencies that come with drunkenness.

Components of the brain signalling system including the neurotransmitter dopamine, as previously indicated, may have a role in the hereditary basis for both alcohol and tobacco addiction. The mesolimbic dopamine system, which has been linked to incentive to gain numerous rewards, including alcohol and nicotine, is one brain system that utilises dopamine as a major neurotransmitter. The ventral tegmental area, the nucleus accumbens, and the prefrontal cortex are among the brain regions that make up this system. Both alcohol and nicotine cause dopamine release in the nucleus accumbens and prefrontal cortex by activating dopamine-releasing nerve cells in the ventral tegmental region.

With repeated administration of either medicine, these pathways appear to grow sensitive, a process known as neuro-adaptation. The endogenous opiate system is another brain neurotransmitter system that may be involved in alcohol–tobacco interactions.

Endogenous opiates are substances produced by the body that have comparable effects to opiates (e.g., morphine). The endogenous opiate system appears to be stimulated by alcohol, which may contribute to its pleasant effects. Nicotine's effects may also be mediated in part through the opiate brain system.

### **Mechanisms of conditioning:[13]**

It is a known observation that persons who drink alcohol and smoke do so in specific contexts (for example, in a bar or at a party) and at the same time. Furthermore, research have shown that resumption of smoking after quitting is closely linked to alcohol use. Because of the frequent contemporaneous use of the two medications, these findings support the concept that they may become connected through a process known as cue conditioning.

Cues previously linked with drug use (e.g., the sight of a liquor bottle or the scent of a burning cigarette) will elicit conditioned responses, including cravings and accompanying physiological activity, according to conditioning theories of addiction. These cue-elicited desires and physiological responses, in turn, can stimulate continued drug use and increase the risk of relapse in those who have been abstinent for a long time. Several laboratory investigations have shown that certain alcohol and smoking-related signals can stimulate cravings and physiological reactions in alcoholics and smokers, respectively.

One study found that the strength of alcohol cravings triggered by alcohol cues was related to the severity of nicotine dependence among alcoholic smokers. Other research has shown that alcohol signals can boost alcoholic smokers' smoking and drinking cravings at the same time. Even the use of alcohol or nicotine as a conditioned pharmacological or sensory cue is possible. As a result, studies that look at the effects of either drug on how the other drug reacts can assist reveal the involvement of conditioning factors in concurrent alcohol and cigarette use. Several early studies, for example, found that drinking alcohol encourages people to smoke.

However, cravings were not unique to smoking-related cues in this investigation, implying that alcohol consumption causes a more widespread increase in smoking cravings. Finally, a laboratory study looked at how hard participants who were allowed to smoke or who were not allowed to smoke would work on a computer task in exchange for alcohol. (A person's desire to drink is determined by how much effort he or she puts into the endeavour [i.e., how hard he or she works] in order to acquire alcohol.) Each subject was assessed in two separate sessions, one with ad lib smoking and the other with smoking deprivation. The task was repeated twice during each session, both before and after a typical amount of alcohol.

The researchers discovered that once the men were given a regular dosage of alcohol, those who were allowed to smoke before starting the assignment worked harder to get more alcohol than those who were denied nicotine overnight.

This impact was not detected when the males were assessed before they were given the alcohol, demonstrating that nicotine consumption can boost the motivation to drink alcohol when paired with alcohol consumption. Women did not show this interaction between nicotine and alcohol intake, implying that there are significant gender variations in pharmacological and motivational influences on alcohol and cigarette use.

#### [1614] Psychosocial considerations

Common psychosocial factors may promote the use of both alcohol and cigarettes even at the earliest phases of drug use, which commonly happens throughout adolescence. For example, personality traits that are consistent throughout a person's life have been linked to the commencement of both alcohol and cigarette use. Sensation seeking, impulsivity, compulsiveness, and neuroticism are examples of these traits (i.e., trait anxiety). Personality traits playing a role in determining alcohol and smoking use is not incompatible with the genetic pathways mentioned above.

Indeed, many of these personality qualities are heritable, and the genetic risk of drinking and smoking could be mediated in part by these personality traits.

Family modelling is another key psychosocial factor on the initiation of mixed alcohol and cigarette use. As a result, multiple studies have found that teenagers who are exposed to older family members who smoke and drink are more likely to engage in these behaviours than adolescents who are not exposed to these family members. As a result, independent of

any direct genetic influence, coupled alcohol and cigarette usage may establish a self-propagating cycle over familial generations.

Peer relationships are considered to be another major modelling factor for alcohol and smoking behaviour. As previously stated, the influence of hereditary variables on alcohol consumption and smoking may be less prominent in adolescence than in early adulthood. Temporary psychological situations in otherwise mentally sound persons may also play a role in long-term alcohol and cigarette consumption. Situational stress and negative emotional states (e.g., anxiety and sadness) have been identified in both laboratory and field research to function as cues that stimulate alcohol or tobacco cravings or consumption in active drinkers or smokers.

Alcohol and nicotine can also be used to relieve stress and tension. Indeed, both medicines are extremely versatile when it comes to regulating mood, as they may be used to help a person relax as well as stimulate or energise them. In social contexts, both alcohol and smoking are widely used as "social lubricants." People with co-morbid psychiatric disorders, notably diverse affective (e.g., depression) and anxiety disorders, have disproportionately high rates of alcohol and tobacco intake.

People with such diseases are likely to self-medicate their affective symptoms with alcohol and smoke, which have direct stimulatory or stress-relieving effects. However, the order in which psychiatric illnesses, as well as alcohol and tobacco use, develop is not always evident and may vary from person to person. As a result, alcohol and tobacco use may be a means of (maladaptive) coping with a pre-existing psychological condition, or they may precede or aggravate psychopathology development. Finally, drinking and smoking may be part of a larger set of symptoms linked with the co-morbid disease. Long-term research involving alcohol and tobacco users who exhibit or acquire various forms of

psychopathology in the future may help to explain the causal processes underlying these associations.

Several other psychosocial characteristics have been linked to the likelihood of combined alcohol and cigarette use in diverse contexts, either theoretically or experimentally. Life stressors (such as the loss of a job or a loved one), social support, self-efficacy, coping abilities, and expectations are among these characteristics (i.e., expectations about the effects of alcohol and tobacco on behavior). These and other psychosocial factors are likely to interact in unique ways with genetic, biological, and conditioning mechanisms throughout a person's history of alcohol and nicotine use, including initiation, maintenance, cessation, and relapse, to determine that person's risk of alcohol and nicotine abuse and dependence.

A repercussion is a result or impact that is undesirable or unpleasant. It's also known as a result or an effect. Tobacco and alcohol use has a number of negative repercussions, including: [18] health and socioeconomic consequences.

- Effects on the body's systems
- Cravings, anxiety, and self-control are all symptoms of a sudden withdrawal.
- Psychiatric anguish
- Behavioral repercussions
- Consequences for the family and children
- Direct or indirect economic impact/burden

**Gather the information needed to conduct a dependency screening:**

Patient medical records were reviewed to collect diagnostic data and to determine the presence of any co-morbidities.

Questionnaires produced by the World Health Organization (WHO) are used to determine the dangerous patterns of tobacco and alcohol usage, as well as their dependence.

**Tobacco usage questionnaire from the World Health Organization:**

Gather the information needed to conduct a dependency screening. It assesses variables such as:

- Prevalence
- Tobacco products are used.
- Patterns of tobacco consumption
- In terms of quitting,
- Getting a handle on the costs
- Concerning co-morbidities
- Data on public knowledge of negative consequences and
- Identifying any work-related stress

**AUDIT[9,19,20] + FAST[18]: FAST is derived from AUDIT.**

**TotalScore:**

**a score of 0-7 means you're at a reduced danger**

**Increased risk between the ages of 8 and 15.**

**16-19: You're at a higher danger**

**20+: Possibility of reliance**

1. How often do you have an alcoholic beverage, and how long have you been doing so?

a) Never b) Once a month or less c) Twice a month or less d) Twice a week e) Four times a week or more

2. On a typical day that you drink, how many alcoholic beverages do you consume?

a) 1 or 2 b) 3 or 4 c) 5 or 6 d) 7 to 9 a) 1 or 2 b) 3 or 4 c) 5 or 6 d) 7 to 9 e) a number of ten or more

3. How often do you consume five or more drinks in a single sitting?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

4. How many times in the last year have you realised that once you start drinking, you can't stop?

a) Never b) Only once a month c) Monthly d) Weekly e) Daily or virtually daily

5. How frequently have you failed to achieve what was asked of you in the last year as a result of drinking?

a) Never b) Less than once a month c) Once a month d) Weekly e) Every day or virtually every day

6. How frequently in the last year did you need a first drink in the morning to wake up after a night of heavy drinking?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily e) Daily or almost daily

7. How frequently have you felt guilty or remorseful after drinking in the last year?

a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily

8. How often have you been unable to recall what happened the night before because of your drinking in the recent year?

a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily

9. Have you or someone you know been hurt as a result of your drinking?

a)No b)Yes, but not in the last 12 months c)Yes, in the previous year

10. Has a family member, friend, doctor, or other health care professional expressed worry about your drinking or advised you to cut back?

a)No b)Yes, but not in the last 12 months c)Yes, in the previous year

AUDIT is a quick and easy way to check for excessive drinking and get a quick assessment. It establishes a framework for intervention to assist high-risk drinkers in reducing or quitting alcohol. It aids in the detection of alcoholism and some of the negative repercussions of binge drinking.



**THE PSYCHOLOGICAL DISTRESS SCALE BY KESSLER (K10)**

S.NO	Questions	All of the time	Most of the time	Some of the time	A little of the time	None of the time
1.	In the past 4 weeks, about how often did you feel tired out for no good reason?	5	4	3	2	1
2.	In the past 4 weeks, about how often did you feel nervous?	5	4	3	2	1
3.	In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?	5	4	3	2	1
4.	In the past 4 weeks, about how often did you feel hopeless?	5	4	3	2	1
5.	In the past 4 weeks , about how often did you feel restless or fidgety?	5	4	3	2	1
6.	In the past 4 weeks, about how often did you feel so restless you could not sit still?	5	4	3	2	1
7.	In the past 4 weeks, about how often did you feel depressed?	5	4	3	2	1
8.	In the past 4 weeks, about how often did you feel that everything was an effort?	5	4	3	2	1

9.	In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?	5	4	3	2	1
10.	In the past 4 weeks, about how often did you feel worthless?	5	4	3	2	1
<b>TOTAL SCORE</b>						

Scores under 20 indicate that you are in good health, 20-24 indicate that you have a minor mental problem, and 25-29 indicate that you have a moderate mental disorder. If you get a score of 30 or higher, you're more likely to have a serious mental illness.

The kessler psychological distress scale (table 1)

**Inform patients about the dangers and withdrawal symptoms of addiction:**

**Tobacco smoke has the following effects on the respiratory system:**

- Trachea (windpipe) and laryngeal irritation (voice box)
- Swelling and narrowing of the lung airways, as well as excess mucus in the lung passages, cause decreased lung function and dyspnea.
- Impairment of the lungs' clearing mechanism, resulting in a build-up of harmful substances, causing discomfort and injury to the lungs.
- An increased chance of lung infection, as well as symptoms like coughing and wheezing.
- Permanent damage to the lungs' air sacs.

**Smoking's effects on the circulatory system include:**

- Tobacco smoke has the following impacts on the circulatory system:

- Increased heart rate and blood pressure
- Skin blood vessel constriction (tightening), leading in a reduction in skin temperature
- During exertion, the blood carries less oxygen.
- Blood that is 'stickier' and more prone to clotting
- Atherosclerosis is assumed to be caused by damage to the arterial lining, which is thought to be a contributing factor (the build-up of fatty deposits on the artery walls)
- Blood flow to the extremities is reduced (fingers and toes)
- Blockages in the blood supply increase the risk of stroke and heart attack.

**Tobacco smoking has the following effects on the immune system:**

- Increased vulnerability to diseases including pneumonia and influenza
- Illnesses that are more severe and linger longer
- Low levels of protective antioxidants in the blood (such as vitamin C).

**Tobacco smoke has the following effects on the musculoskeletal system:**

- Muscle tenseness in some areas
- Bone problems

**The effects of smoking on the sexual organs are as follows:**

**Tobacco smoke has a number of negative consequences on men's health, including an increased chance of:**

- Reduced sperm count

- A higher percentage of sperm that are malformed
- Sperm genetic damage
- Impotence, which could be caused by smoking's effects on blood flow and damage to the penis' blood arteries.

**The following are some of the negative impacts of cigarette smoking on women's bodies:**

- Infertility issues, menstrual cycle problems, or no menstruation
- Menopause arrived a year or two earlier.
- An increased risk of cervical cancer
- If the smoker is over 35 years old and using the oral contraceptive pill, the risk of stroke and heart attack is greatly enhanced.

**Other health effects of smoking include:**

- Stomach and intestinal irritation and inflammation
- Painful ulcers along the digestive tract are more likely.
- Impaired senses of smell and taste
- Wrinkling of the skin before its time
- Increased risk of blindness

### **Long-term smoking causes the following diseases:**

- A longtime smoker faces a significant chance of contracting a number of potentially fatal conditions, including:
  - Lung, nose, larynx, tongue, nasal sinus, oesophagus, throat, pancreas, bone marrow (myeloid leukaemia), kidney, cervix, ovary, ureter, liver, bladder, bowel, and stomach cancers
  - Lung diseases such chronic bronchitis and chronic obstructive pulmonary disease (COPD), which encompasses bronchiolitis and emphysema.
  - Heart disease, coronary artery disease, heart attack, and stroke
  - Ulcers in the gastrointestinal tract
  - Hip fractures and osteoporosis
  - Poor blood circulation in the feet and hands, which can cause discomfort, gangrene, and amputation in extreme cases.

### **Tobacco that does not produce smoke:**

- Tobacco, whether smokeless, snuff, or chewed, contains nicotine as well as a number of recognised carcinogens (cancer-causing substances).
- When chewing tobacco is used, more nicotine is absorbed than when smoking a cigarette.
- Chewing tobacco is linked to an increased risk of mouth cancer.

- Gum disease, dental decay, and tooth loss are among the numerous health dangers of chewing tobacco, as well suspected linkages to other malignancies, cardiovascular disease, and stroke.

**Snuff and chewing tobacco users are more likely to get various malignancies, most notably cancers of the oral cavity, which include cancers of the:**

- Cheek,
- Gums,
- Lips,
- Tongue and lip
- The mouth's floor and roof.

**Some research has found a link between chewing tobacco use and the development of:**

- Pancreatic cancer is a type of cancer that affects the pancreas
- Esophageal cancer, as well as
- Cancer of the stomach.

**Chewing tobacco users are more likely to develop:**

- Gum disease and gum recession (pushing the gum tissue away from the teeth) develop;
- Leukoplakia (cancer-causing white spots inside the mouth);
- Tooth abrasion (wearing down);
- Tooth discoloration;

- Gum disease; and
- Loss of teeth.

Some studies have found a link between snuff and chewing tobacco users and an increased risk of cardiovascular disease (including heart attacks and stroke), though the risks are not as high as those seen in smokers.

Consumption of alcohol has the following negative impacts on one's health:

Alcohol's short-term health impacts include:

**In the near term, drinking too much alcohol might lead to:**

- Dizziness
- Lack of judgement
- Loss of coordination
- Memory loss
- Vomiting
- Hangovers and headache
- Accidental injury (to yourself or others) (to yourself or others)
- Being in a road accident
- Deliberately harming yourself or others
- Alcohol poisoning (which can be fatal) (which can be fatal)

### **Long term health effects of alcohol:**

Drinking more than 2 standard drinks a day can seriously affect your health over your lifetime. It can lead to dependence and addiction, especially in people who have depression or anxiety, and can increase your risk of suicide.

Brain: Drinking too much can affect your concentration, judgement, mood and memory. It increases your risk of having a stroke and developing dementia.

Heart: Heavy drinking can lead to Increases your blood pressure, heart damage and heart attacks.

Liver: Drinking 3 to 4 standard drinks a day increases your risk of developing liver cancer Long-term heavy drinking also puts you at increased risk of liver cirrhosis and death.

Stomach: Drinking even 1 to 2 standard drinks a day increases your risk of Stomach and bowel cancer as well as stomach ulcers.

Fertility: Regular heavy drinking reduces men testosterone levels sperm count and fertility.

For women, drinking too much can affect their periods.

Tobacco withdrawal effects:

7 primary symptoms associated with nicotine withdrawal:

- Irritability/anger/frustration
- Anxiety
- Depressed mood
- Difficulty concentrating
- Increased appetite



- Insomnia
- Restlessness

For practical purposes, nicotine withdrawal symptoms are classified as:

Affective

Somatic

Cognitive

Affective symptoms include anxiety, anhedonia, depression, dysphoria, hyperalgesia, and irritability.

Somatic manifestations include tremors, bradycardia, gastrointestinal discomfort, and increased appetite.

Cognitive symptoms manifest as difficulty concentrating and impaired memory.

Alcohol withdrawal effects:

Mild to moderate: Tremors, irritability, anxiety, or agitation.

The most severe manifestations of withdrawal include delirium tremens, hallucinations, and seizures.

**Six to twelve hours post-ingestion:**

- Agitation
- Anxiety
- Headaches

- Shaking

- Nausea and vomiting

**Twelve to twenty four hours post-ingestion:**

- Disorientation

- Hand tremors

- Seizures

**Forty eight hours after ingestion:**

- Seizures

- Insomnia

- High blood pressure

- Tactile, auditory and visual hallucinations

- High fever and excessive sweating

**Addressing the patients about different types of clinical interventions:**

**Effective interventions for combating smoking:**

➤  Anti-tobacco marketing campaigns Effect on cessation and initiation varies with content and intensity of campaigns.

➤  Brief physician advice to smokers 1–3 percentage point increase in long-term smoking cessation rate in all those receiving it regardless of initial motivation to quit.

➤ □ Prescription for varenicline, nicotine replacement therapy, bupropion, nortriptyline or cytisine 5–15 percentage point increase in quit success in those using it to try to quit (highest with varenicline and nicotine patches plus faster acting nicotine replacement therapy) (highest with varenicline and nicotine patches plus faster acting nicotine replacement therapy).

➤ □ Behavioural support, either face to face or by telephone 3–10 percentage point increase in long-term quit success among those using it to try to quit for multi-session support delivered by trained specialists, the effect apparently being additive with pharmacotherapy .

➤ □ Printed self-help materials 1–2 percentage point increase in long-term quit success in those using it to try to quit compared with nothing.

➤ □ “Personalized patient alerts and care pathways to prompt prevention interventions for combined alcohol and tobacco users in primary care” or COMBAT. The COMBAT trial will be operationalized via the Smoking Treatment for Ontario Patients (STOP) programme, an established smoking cessation programme implemented at the primary care level in Ontario, Canada. The STOP programme offers up to 26 weeks of smoking cessation treatment, consisting of nicotine replacement therapy and behavioural counselling, at no cost to the patient.

➤ □ Peer-led school-based anti-smoking programmes and social competence training  
Reduction in youth uptake varies with content and intensity of the programme.

Interventions in alcohol dependence: Psychosocial interventions are best described as “psychologically-based interventions aimed at reducing consumption behaviour or alcohol-related problems”, which exclude any pharmacological treatments.

**This term refers to a heterogeneous collection of interventions, which vary depending on:**

(a) Theoretical underpinnings (e.g., psychodynamic, behavioural, motivational) (e.g., psychodynamic, behavioural, motivational)

(b) Duration or intensity (e.g., brief, extended) (e.g., brief, extended)

(c) Setting (e.g., primary care based, inpatient) (e.g., primary care based, inpatient)

(d) Mode of delivery (e.g., group, individual, web based) (e.g., group, individual, web based)

(e) Treatment goals (e.g., abstinence oriented, harm reduction) (e.g., abstinence oriented, harm reduction).

To date, many psychosocial interventions specifically designed to address problem alcohol use have been described.

The most frequently used interventions include:

- Motivational interviewing (MI) (MI)
- Cognitive-behavioural therapy (CBT) (CBT)
- Brief interventions (SBI) (SBI).

**Motivational interviewing (MI):**

MI helps people to explore and resolve their ambivalence about their substance use and begin to make positive behavioural and psychological changes. The principles of MI include expressing empathy through reflective listening, developing discrepancy between patient

goals or values and their current behaviours, avoiding argument and direct confrontation, adjusting to client resistance and supporting self-efficacy and optimism.

### **Cognitive-behavioural therapy (CBT):**

Cognitive behavioural interventions, also called CBT comprise an array of approaches based on the learning principles and theorise that behaviour is influenced by cognitive processes. Standard CBT is a time-limited, structured psychological intervention, derived from a cognitive model of drug misuse. There is an emphasis on identifying and modifying irrational thoughts, managing negative mood and intervening after a lapse to prevent a full-blown relapse.

### **Brief interventions (SBI):**

The effectiveness of brief opportunistic interventions has been established primarily for alcohol use problems, although they have been applied to patients using other substances as well. The aim of the intervention is to help the patient understand that their substance use is putting them at risk and to encourage them to reduce or give up their substance use.

BIs can range from 5 min of brief advice to 15-30 min of brief counselling. A number of features contribute to the effectiveness of BIs and these have been summarised using the acronym feedback, responsibility, advice, menu of options, empathy and self-efficacy. In treatment of alcohol related problems, BIs include targeted opportunistic screening for hazardous and harmful drinkers. They are targeted at people who drink heavily and aim to reduce the amount they drink.

They do not work with dependent drinkers who are seeking help for alcohol problems. They generally result in a 20-30 percent reduction in excessive drinking. BI is also helpful in alcohol users admitted to general hospital wards where benefits in terms of reduction of

alcohol consumption at 6 and 9 months and decreased death rates have been documented. BIs are also highly cost-effective. Significant effect at follow-up after BI is found for up to 2 years. Longer-term effects less evident and booster sessions may be required.

Develop a list of local resources information for rehabilitation:

Collecting the information, regarding rehabilitation centres and referring the patients to the centres that are present in and around Tirupathi and providing assistance in their abstinence.

To determine the patients' socioeconomic status:

SES is a measure of an individual's or family's economic and social position in relation to other community members, as well as the economic and sociological conditions of their work competence. In most cases, income, education, and occupation are considered when determining socioeconomic status.

Most scientific investigations, such as hospital and community-based studies, require an assessment of an individual's or family's socioeconomic status, as several diseases are linked to socioeconomic status directly or indirectly. It reflects both the affordability of health care and the purchasing power of community members.

Various socio-economic scales exist, and SES is used to classify the communities and people. However, the socio-economic scale is extensively employed in rural, urban, and semi-urban settings. It was first published in 1976. Over the years, this scale has been endlessly altered. In January 2018, a new version was released.

### **CLINICAL PHARMACIST'S RESPONSIBILITIES:**

Pharmacists are front-line health care providers who are perhaps the most approachable members of a health care team [16,17].

They are required to take on a variety of duties in order to prevent the negative impacts of societal practises. They are as follows:

- Gather the information needed to conduct a dependency screening.
- Educate patients about the dangers of addiction and the symptoms of withdrawal.
- Educating patients about various forms of treatment interventions
- Find the information you need to address inquiries concerning the effects of alcohol and smoking.
- Create a list of local rehabilitation resources and information.
- To give patient education and raise patient awareness
- To inform patients about the socioeconomic consequences of their actions.

## 2. REVIEW OF LITERATURE

1. **Ganesh Kumar S, Premarajan K.C, Subitha L et al., has conducted study on Prevalence and Pattern of Alcohol Consumption using Alcohol Use Disorders Identification Test (AUDIT) in Rural Tamil Nadu, India:** In a rural area of Tamil Nadu, a cross sectional survey was used to determine the prevalence and pattern of alcohol intake. The study had a sample size of 946 people over the age of ten, and data was collected using the AUDIT scale. According to the findings, the incidence of alcohol usage is high, particularly among men. A standardised questionnaire was used to collect data on the pattern and associated factors such as smoking, tobacco chewing, and chronic conditions.
2. **Srinivas VittalKatikireddi, Elise Whitley et al., has conducted on Socioeconomic status as an effect modifier of alcohol consumption and harm:** Data from linked cohorts is analysed. The goal of the study was to see if the negative effects of alcohol differed by socioeconomic position, taking into account alcohol use as well as other health-related factors. Scottish Health Surveys from 1995, 1998, 2003, 2008, 2009, 2010, 2011, and 2012 were used to conduct a cross-sectional study. The study comprised a total of 50236 individuals (21777 men and 28459 women). The study revealed that low socioeconomic level was continuously related with significantly increased alcohol-attributable effects, even after adjusting for weekly intake, binge drinking, BMI, and smoking. The researchers looked on the link between alcohol-related damage and socioeconomic status.
3. **Nitin Kumar Pathaket al., has conducted study on Alcohol and tobacco use among male aged 15 year and above in urban area of Ghaziabad city, Uttar Pradesh, India:** An epidemiological investigation. Between September 2010 and October 2011, a cross sectional study was undertaken at Santosh Medical College in Ghaziabad, Uttar Pradesh, among males aged 15 years. There were 324 participants in this study. Data is



acquired by interviewing each study subject at their home using the WHO questionnaire (AUDIT: alcohol use disorder identification test) as a study tool. They came to the conclusion that alcoholics are more addicted to cigarettes than tootellers. Though there have been studies that show a link between alcohol and tobacco usage, there hasn't been much research done in India on the subject.

4. **K.J. Neufeld et al., has conducted study on Regular use of alcohol and tobacco in India and its association with age, gender, and poverty:** Data from the 52nd round of the National Sample Survey are presented in this paper (NSS). A total of 471,143 persons were included in the sample. The poll includes people between the ages of 25 and 69. The course of study lasts ten years. They came to the conclusion that frequent use of smoke and alcohol rose significantly as income quintiles decreased. Rural residents, as well as those without a formal education, had greater rates than city dwellers. Individuals with lower earnings showed a higher relative likelihood of using chewing tobacco and alcohol than those with higher incomes.

5. **MARY-ANNE ENOCH et al., has conducted study on Problem Drinking and Alcoholism: Diagnosis and Treatment:** Alcoholism is one of the most common psychiatric disorders with a prevalence of 8 to 14 percent. The ratio of alcohol dependence to alcohol abuse is approximately two to one. The incidence of alcoholism is still more common in men, but it has been increasing in women, and the female to male ratio for alcohol dependence has narrowed to one to two. Alcohol addiction is a lifelong disease with a relapsing, remitting course. They concluded that the thirty to 60 percent of alcoholics maintain at least one year of abstinence with psychosocial therapies alone. In this Alcoholism is treated by a variety of psychosocial methods with or without newly developed pharmacotherapies that improve relapse rates.

6. **Megan M. Yardley et al., has conducted study on Pharmacological Options for Smoking Cessation in Heavy-Drinking Smokers:** The data for this study came from the National Epidemiologic Survey on Alcohol. The study lasted from 2001 to 2002. Genetics, neurobiological mechanisms, conditioning processes, and psychosocial influences are among the factors investigated in this study. They came to the conclusion that there is a significant prevalence of alcohol and tobacco co-use, and it is well known that nicotine-dependent patients have more severe alcohol dependency and a poorer response to alcohol therapy.

7. **Tamara J Brown et al., has conducted study on Community pharmacy-delivered interventions for public health priorities: a systematic review of interventions for alcohol reduction, smoking cessation and weight management, including meta-analysis for smoking cessation:** The study employs a variety of controlled study methodologies and electronic databases. There were 19 studies in all. The sample size ranged from 28 to 7000 people. The age ranges from 24 to 60 years old. The study's follow-up period lasted anywhere from 5 to 56 weeks. They concluded that community pharmacy-delivered smoking cessation therapies are effective, and that pharmacies are a viable choice for weight management interventions. Provider costs for pharmacy-based weight control interventions are comparable to those in other primary care settings, but they are higher than those administered by commercial companies.

8. **George Davey Smith et al., has conducted study on The combined effect of smoking tobacco and drinking alcohol on cause-specific mortality:** a thirty-year cohort study The study used a prospective cohort study with a sample size of 5771 men. Age ranges from 35 to 64 years old. The research took 30 years to complete. According to the study's findings, 3083 men (53.4%) died. Current smokers had high relative risks of CHD mortality, with modest alcohol use having a putative protective effect in never smokers. Smoking had a

significant impact on respiratory mortality, but drinking had a minor impact. Premature mortality was notably high among smokers who used 15 or more units of alcohol, with a quarter of the males dying before reaching the age of 65.30 percent. They came to the conclusion that smoking and consuming 15 or more units of alcohol per week was the most dangerous behaviour for all causes of death.

9. **Jamie Brown, Robert West et al., has conducted study on Comparison of brief interventions in primary care on smoking and excessive alcohol consumption:** The study uses cross-sectional household surveys, with a sample size of 15252 persons drawn from home surveys in England. Both age groups are over the age of 18. The study will last for 24 months. The AUDIT score is used to collect information on smoking and alcohol consumption, as well as socio-demographic data. In the past year, 1775 smokers (50.4 percent) remembered receiving brief smoking advice. In the previous year, 6.5 percent of the 1110 people who drank excessively recalled obtaining advise from their GP about their alcohol usage.

10. **Monika Mitra et al., has conducted study on Smoking Status and Quality of Life: A Longitudinal Study among Adults with Disabilities:** Phases I and III of the Massachusetts Survey of Secondary Conditions (MSSC), a three-phased longitudinal survey of independently living persons with severe disabilities in Massachusetts, were used to compile the study's results. HRQL, as measured by the Medical Outcomes Study Short Form-36, was the primary outcome measure (SF-36). Changes in smoking status were linked to HRQL scores over time. They concluded that the findings underline the critical importance of informing public health initiatives, persons with disabilities, and healthcare practitioners about the link between tobacco cessation and improved health-related quality of life in individuals with disabilities.

11. **Hemang Suthar<sup>1</sup>, Kaushal Suthar et al., has conducted study on clinical profile of cases of alcoholic liver disease:** The study used laboratory and radiographic data to assess the severity of alcoholic liver disease, its consequences, and overall prognosis among patients. A total of 50 patients were included in the study. 58 percent of the 50 patients were between the ages of 40 and 49. All of the patients' SGPT, SGOT, S.AIPO<sub>4</sub>, and S.bilirubin levels were elevated, indicating liver impairment. Prolonged PT and low S.albumin levels suggested a reduction in protein synthesis as a result of liver illness. They came to the conclusion that alcoholic liver disease is more common in people of working age, with high morbidity and mortality.

12. **Mark A. Zamorski, et al., has conducted study on The psychometric properties of the 10-item Kessler Psychological Distress Scale (K10) in Canadian military personnel:** The K10's psychometric qualities were assessed in Canadian Armed Forces soldiers in this study. The 2013 Canadian Forces Mental Health Survey yielded data on 6700 Regular Forces individuals. Confirmatory factor analysis was used to assess the internal consistency and factor structure of the K10 (range, 0–40). (CFA). The presence/absence of any of four past-month disorders as the outcome (posttraumatic stress disorder, major depressive episode, generalised anxiety disorder, and panic disorder) was used to select optimal cut-offs for the K10. This study also suggests that the K10 scale has satisfactory psychometric properties for use as a measure of non-specific psychological distress in the military population.

### **3.RATIONALE OF THE STUDY**

Tobacco and alcohol use are two hazardous behaviours that commonly occur during adolescence in our society. These are the leading causes of death that could have been avoided. Tobacco-related diseases claim the lives of more than half of those receiving treatment for alcoholism. People who are addicted to alcohol are three times more likely to smoke, and smokers are four times more likely to be addicted to alcohol. At the two extremities of the developmental timeline, namely ADHD and Alzheimer disease/dementia, there is significant evidence for a link between tobacco and the onset or advancement of psychiatric problems. Tobacco smoking is now linked to alterations in brain structure and neural circuitry in brain regions and systems that are clearly linked to a variety of psychiatric diseases. These findings, together with the high frequency of smoking in psychiatric populations, emphasise the need of incorporating smoking as a potential confounding variable in studies looking into the brain processes of mental diseases. Indeed, many of these personality qualities are heritable, and the genetic risk of drinking and smoking could be mediated in part by these personality traits. Family modelling is another key psychosocial factor on the initiation of mixed alcohol and cigarette use. As a result, multiple studies have found that teenagers who are exposed to older family members who smoke and drink are more likely to engage in these behaviours than adolescents who are not exposed to these family members. As a result, independent of any direct genetic influence, coupled alcohol and cigarette usage may establish a self-propagating cycle over familial generations.

As a result, our primary goal is to assess patients' psychological discomfort related to alcohol and cigarette use.

## **4.AIMS&OBJECTIVES**

### **AIM:**

The primary goal of this research is to determine the psychological suffering related with cigarette and alcohol use.

### **OBJECTIVES:**

- ✓ In order to record the risk of alcohol use and smoking status in patients with psychological distress, a study was conducted.
- ✓ To assess psychological suffering by determining the duration of the patient's consumption.
- ✓ To determine the co-morbidities that are present in psychologically troubled patients.
- ✓ To assess diagnostic patterns in psychologically troubled patients.
- ✓ The kessler-10 scale was used to assess the psychological suffering of patients.
- ✓ The WHO tobacco consumption questionnaire was used to assess tobacco intake in patients.
- ✓ The FAST + AUDIT questionnaire was used to assess the presence of alcohol in patients.
- ✓ Counseling patients who use alcohol or cigarettes to enhance their quality of life.

## **5.MATERIALS AND METHODS**

**Study Design:** Cross Sectional Questionnaire based study

**Study Site:** Department of GENERAL MEDICINE AND GENERAL SURGERY IN PATIENTS  
at GOVT HOSPITAL, DHARMAPURI.

**Study Duration:**6 Months

**Study Size:**A total200 in patients

### **Study criteria:-**

#### **Inclusion criteria:**

Patients who are alcoholic and use tobacco admitted in General surgery, General Medicine ward during study period.

#### **Exclusion criteria:**

- Out patients
- Pediatrics
- Pregnant and lactating women
- Seropositive patients

### **METHODOLOGY:**

This study is carried out after obtaining the permission of institutionalreview board, Padmavathi College of Pharmacy, Dharmapuri, India. All patients having psychological distress patients admitted in the general medicinein-patient ward, general medicine of Govt. Hospital, Dharmapuri are included in the study. The patients who co-operated were interviewed and

information was filled in proforma. Patient's demographics, complaints, past medical and medication history, personal habits, socio economic status and occupation, diagnosis, drug chart were documented by taking verbal consent from patient or patient care taker.

The parameters will be assessed in study were:

- Demographic details
- Occupational history, economic status, family history, social habits of study population
- Past history
- Diagnosing pattern
- WHO tobacco consumption questionnaire
- FAST+AUDIT scale
- K-10 scale
- Treatment pattern

Testing and evaluating was carried in all patients admitted in General surgery, General Medicine .

#### **WHO Tobacco Consumption Questionnaire:**

1. Have you ever used any form of tobacco?

Smoking: Cigars/Beedi/ Others      Smokeless: Chewing / Snus/ Snuff/ Gutka / Others

2. Do you currently smoke tobacco on a: Daily basis/ less than daily

3. How old were you when you first started smoking cigarettes:      yrs

4. About how many years were you a smoker: <1yr / 1-5yrs/ 5-15yrs/ >20yrs

5. How many cigarettes on average did you smoke per day?

6. Have you ever attempted to quit any form of tobacco?

7. What are/were the reasons that you attempted to quit?



High price of cigarettes

Disapproval of friends/relatives

Hospitalization

Health problems

Concern over health of others in household or future health risks

Other:

8. Have you ever visited a doctor regarding health issues:    Yes    No

9. During the visit to doctor have you ever advised to quit?    Yes    No

10. Are you aware of the dangers of tobacco consumption?    Yes    No

11. Quantity of tobacco purchased:

12. Cost of the product:

13. Do you have any occupational or job stress:

### **FAST + AUDIT:**

**TotalScore: 0-7: lower risk    8-15: Increased risk    16-19: Higher risk    20+: Possible**

### **dependence**

1. How often do you have a drink containing alcohol and since how many years

a) Never b) Monthly or less c) 2 to 4 times a month d) 2 to 3 times a week e) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

a) 1 or 2 b) 3 or 4 c) 5 or 6 d) 7 to 9 e) 10 or more

3. How often do you have 5 or more drinks on one occasion?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

a)Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected of you because of drinking?

a) Never b) Less than monthly c) Monthly d)Weekly e) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

a) Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because of your drinking?

a)Never b)Less than monthly c)Monthly d)Weekly e)Daily or almost daily

9. Have you or someone else been injured because of your drinking?

a)No b)Yes, but not in the last year c)Yes, during the last year

10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?

a)No b)Yes, but not in the last year c)Yes, during the last year

**THE KESSLER PSYCHOLOGICAL DISTRESS SCALE (K10)**

<b>S.NO</b>	<b>Questions</b>	<b>All of the time</b>	<b>Most of the time</b>	<b>Some of the time</b>	<b>A little of the time</b>	<b>None of the time</b>
1.	In the past 4 weeks, about how often did you feel tired out for no good reason?	5	4	3	2	1
2.	In the past 4 weeks, about how often did you feel nervous?	5	4	3	2	1
3.	In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?	5	4	3	2	1
4.	In the past 4 weeks, about how often did you feel hopeless?	5	4	3	2	1
5.	In the past 4 weeks , about how often did you feel restless or fidgety?	5	4	3	2	1
6.	In the past 4 weeks, about how often did you feel so restless you could not sit still?	5	4	3	2	1
7.	In the past 4 weeks, about how often did you feel depressed?	5	4	3	2	1

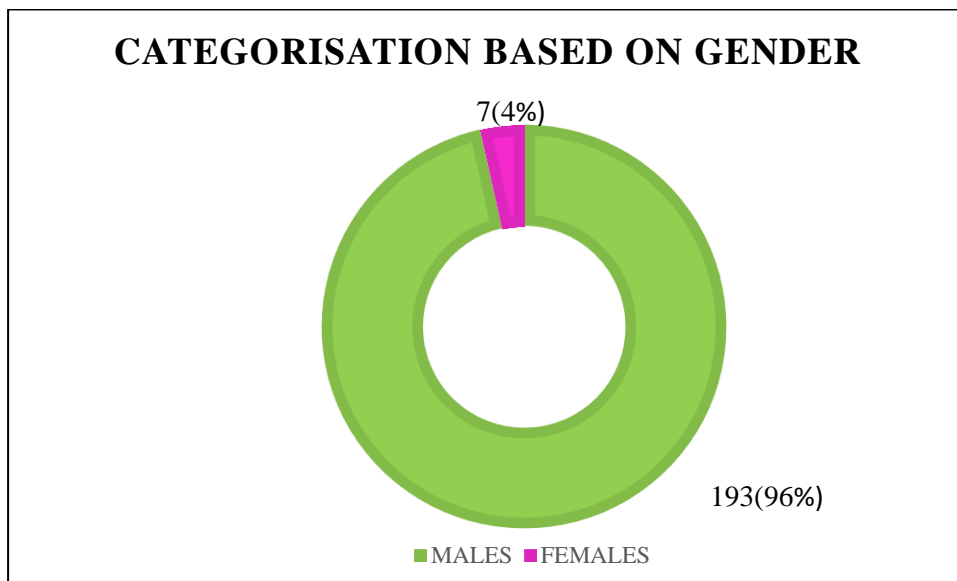
8.	In the past 4 weeks, about how often did you feel that everything was an effort?	5	4	3	2	1
9.	In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?	5	4	3	2	1
10.	In the past 4 weeks, about how often did you feel worthless?	5	4	3	2	1
<b>TOTAL SCORE</b>						

Score under 20 are likely to be well, score 20-24 are likely to have a mild mental disorder, score 25-29 are likely to have moderate mental disorder score 30 and over are likely to have a severe mental disorder

We collected the information from patient case sheet and patient interview. Patients are counselled regarding their social habits. Based on the results obtained on the psychological distress the patients are educated regarding pre-requisite of several diseases associated with consumption of alcohol and tobacco.

**TABLE 3: CATEGORISATION BASED ON GENDER**

S.NO	GENDER	NO. OF PATIENTS (N=200 (%))
1	MALE	193 (96%)
2	FEMALE	7 (4%)

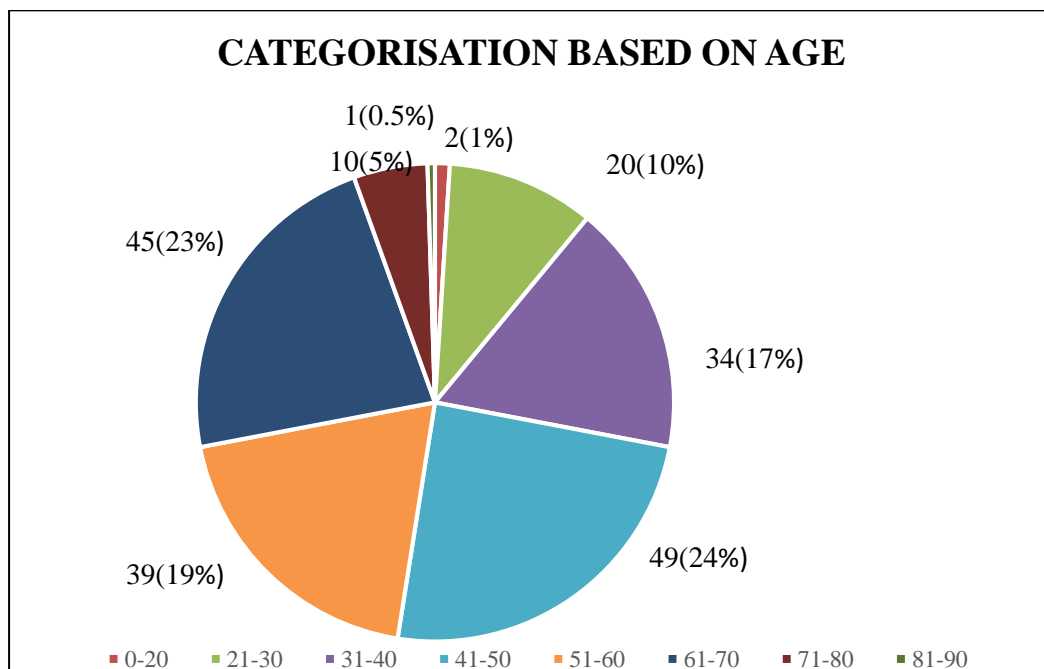


**Fig5: Gender wise distribution**

Out of 200 patients, highest number of patients were males 193 (96%) followed by females 7(4%) patients respectively.

**TABLE 4: CATEGORISATION OF PATIENT BASED ON AGE**

S.NO	AGE	NO. OF PATIENTS (N=200 (%))
1	0-20	2(1%)
2	21-30	20(10%)
3	31-40	34 (17%)
4	41-50	49 (24%)
5	51-60	39 (19%)
6	61-70	45 (23%)
7	71-80	10 (5%)
8	81-90	1(0.5%)

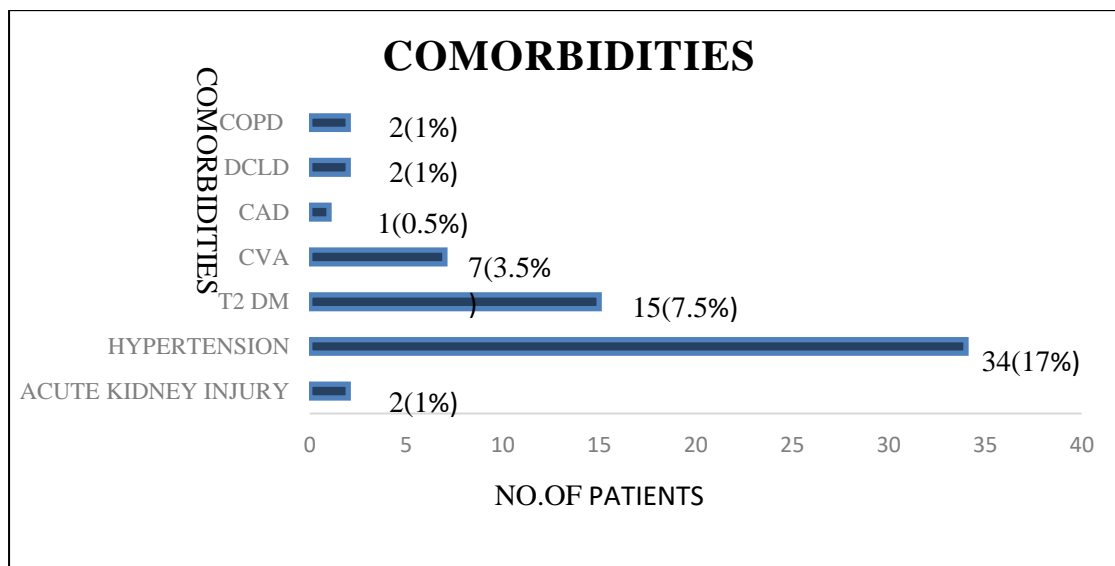


**Fig 6: Age wise distribution**

Out of 200 patients, highest number of patients were under the age group of 41-50 followed by 61-70, 51-60, 31-40, 21-30, 71-80 and 81-90 patients respectively.

**TABLE 5: CATEGORISATION BASED ON COMORBIDITIES:**

S.NO	COMORBIDITIES	No. OF PATIENTS (N=200 (%))
1	ACUTE KIDNEY INJURY	2 (1%)
2	HYPERTENSION	34 (17%)
3	T2 DM	15(7.5%)
4	CVA	7(3.5%)
5	CAD	1 (0.5%)
6	DCLD	2 (1%)
7	COPD	2(1%)

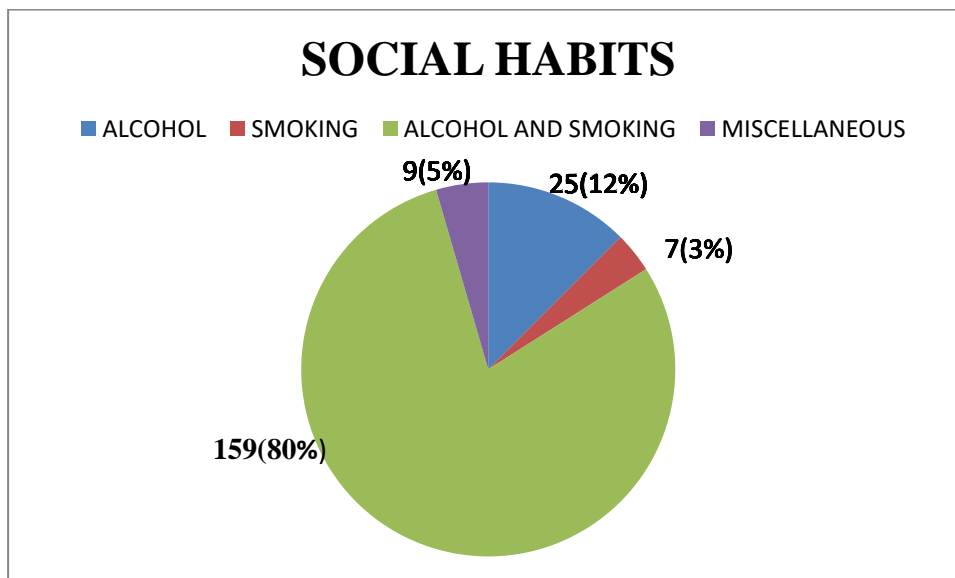


**Fig 7: Co morbidities**

Out of 200 patients, 34 patients with hypertension followed by 15 patients with T2 diabetes mellitus, 7 patients with CVA, 2 patients with Acute kidney injury, 2 patients with DCLD, 2 patients with COPD and 1 patient with CAD respectively

**TABLE 6: DISTRIBUTION BASED ON SOCIAL HABITS:**

S.NO	SOCIAL HABITS	NO. OF PATIENTS (N=200 (%))
1	ONLY ALCOHOL	25 (12%)
2	ONLY SMOKER	7 (3%)
3	BOTH	159 (80%)
4	MISCELLANEOUS	9 (5%)



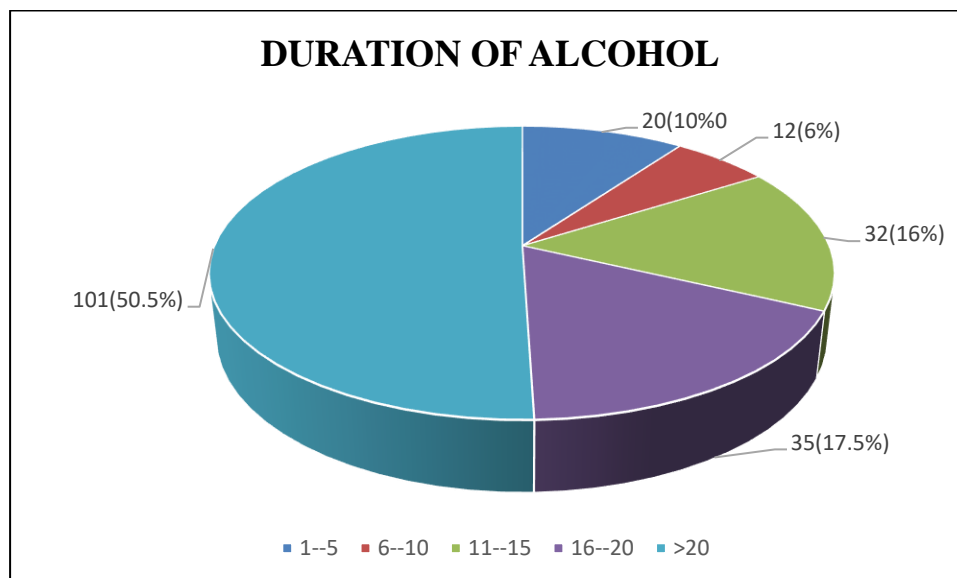
**Fig 8: Social habits**



As per shown in the above fig, Out of 200 patients,7 patients are only smokers,25 patients consuming only alcohol, 159 patients are consuming both alcohol and smoking and 9 patients are smokeless respectively.

**TABLE 7: CATEGORISATION BASED ON DURATION OF ALCOHOL**

S.NO	DURATION OF ALCOHOL (Years)	NO. OF PATIENTS (N=200(%))
1	1-5	20(10%)
2	6-10	12(6%)
3	11-15	32(16%)
4	15-20	35(17.5%)
5	>20	101(50.5%)

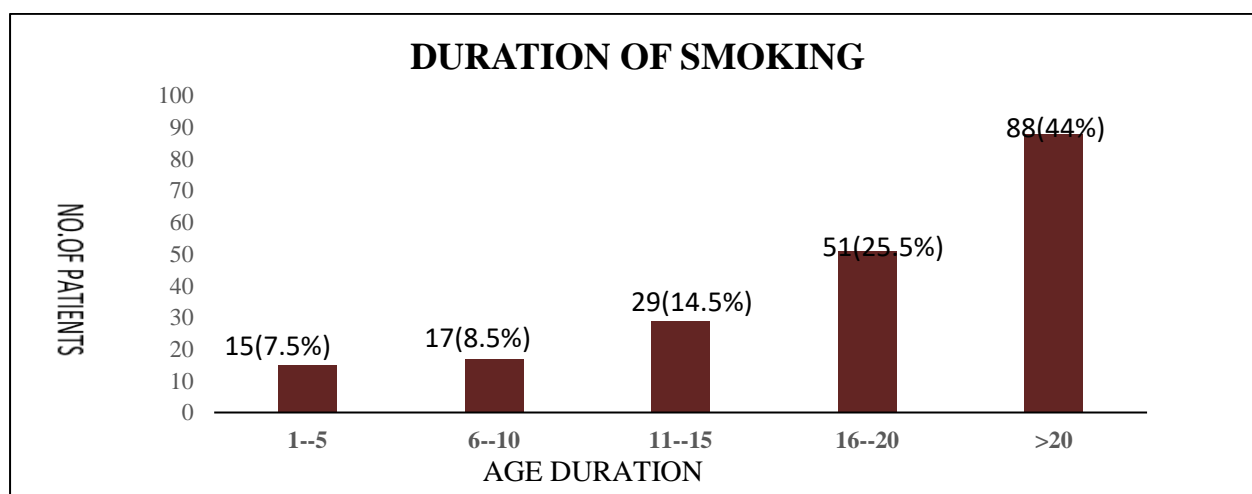


**Fig 9: Duration of alcohol**

Out of 200 patients, highest number of patients was under >20 years followed by 16-20, 11-15, 1-5 and 6-10 years i.e., 101, 35, 32, 20 and 12 patients respectively.

**TABLE 8: CATEGORISATION BASED ON DURATION OF SMOKING:**

S.NO	DURATION Of SMOKING (years)	NO. OF PATIENTS (N=200(%))
1	1-5	15(7.5%)
2	6-10	17(8.5%)
3	11-15	29(14.5%)
4	16-20	51(25.5%)
5	>20	88(44%)

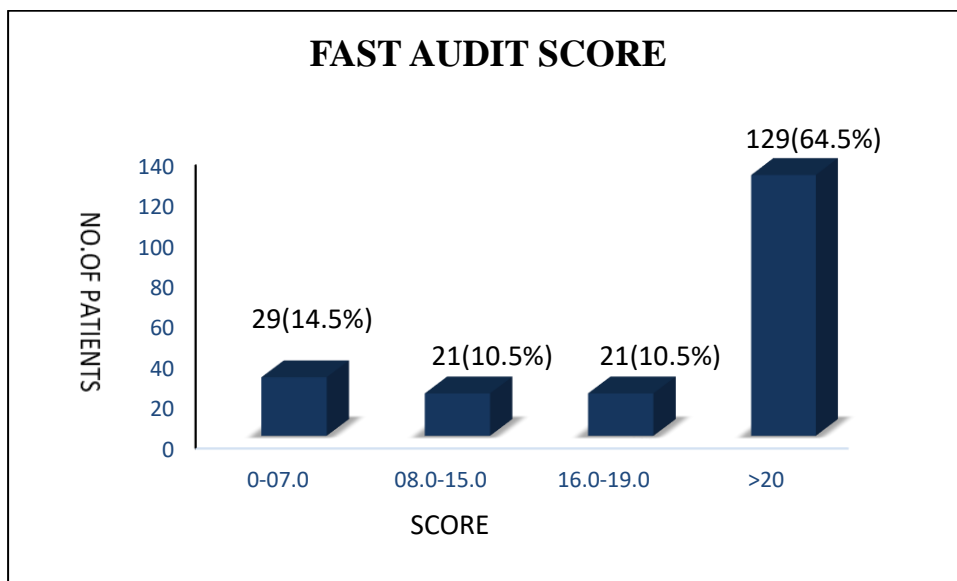


**Fig 10:Duration of Smoking**

Out of 200 patients, highest number of patients was under >20 years followed by 16-20, 11-15, 6-10 and 1-5 years i.e., 88, 51, 29, 17 and 15 patients respectively.

**TABLE 9: CATEGORISATION BASED ON FAST+AUDIT QUESTIONNAIRE:**

S.NO	QUESTIONNAIRE	NO. OF PATIENTS (N=200(%))
1	0-7	29(14.5%)
2	8-15	21 (10.5%)
3	16-19	21(10.5%)
4	>20	129(64.5%)

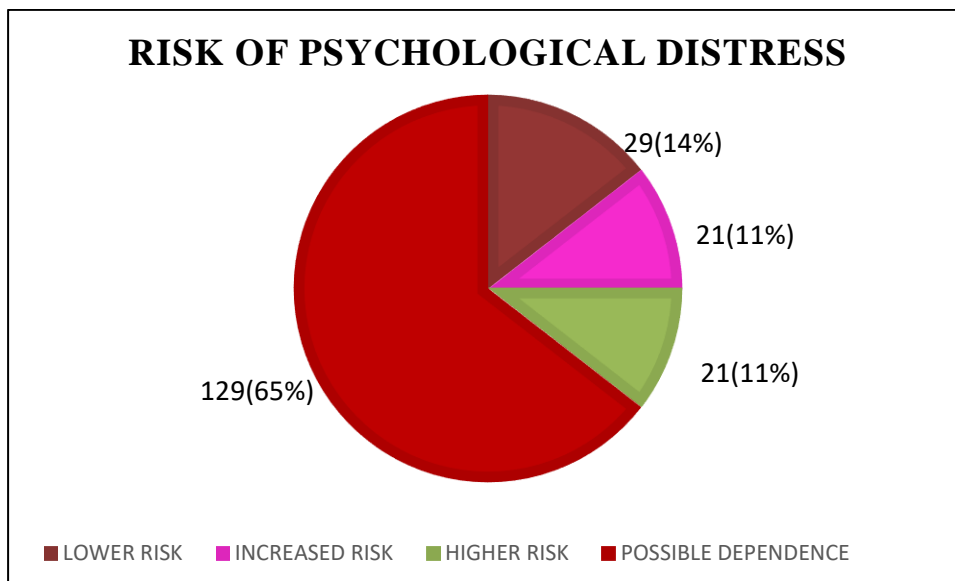


**Fig 11: Questionnaire**

Out of 200 patients, based on questionnaire more than 20 score have 129 patients and score with 0-7 have 29 patients, 8-15 score have 21 patients and 16-19 score have 21 patients respectively.

**TABLE 10: CATEGORISATION BASED ON RISK OF  
PSYCHOLOGICAL DISTRESS:**

<b>S.N0</b>	<b>PSYCHOLOGICAL DISTRESS</b>	<b>NO. OF PATIENTS (N=200(%))</b>
1	LOWER RISK	29(14%)
2	INCREASED RISK	21(11%)
3	HIGHER RISK	21(11%)
4	POSSIBLE DEPENDENCE	129(65%)

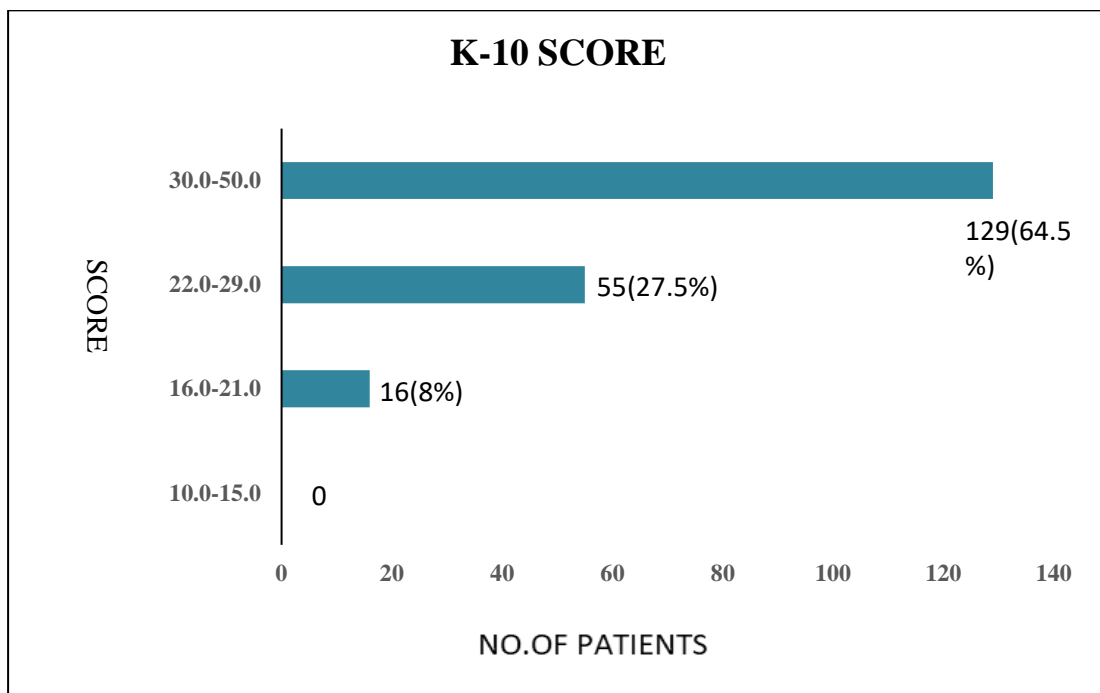


**Fig 12: Psychological distress**

Out of 200 patients, based on questionnaire 129 patients are with Possible dependence, followed by 21 patients with increased risk and higher risk and 29 patients have lower risk respectively.

**TABLE 11:**  
**CATEGORISATION BASED ON K-10 QUESTIONNAIRE:**

S.NO	QUESTIONNAIRE	NO. OF PATIENTS (N=200(%))
1	10-15	0
2	16-21	16 (8%)
3	22-29	55(27.5%)
4	30-50	129(64.5%)



**Fig 13: K-10 score**

Out of 200 patients, based on K-10 questionnaire more than 30-50 score have 129 patients and score with 22-29 have 55 patients, 16-21 score have 16 patients and 10-15 score have no patients respectively.

**TABLE 12:**

**CATEGORISATION BASED ON PSYCHOLOGICAL DISTRESS:**

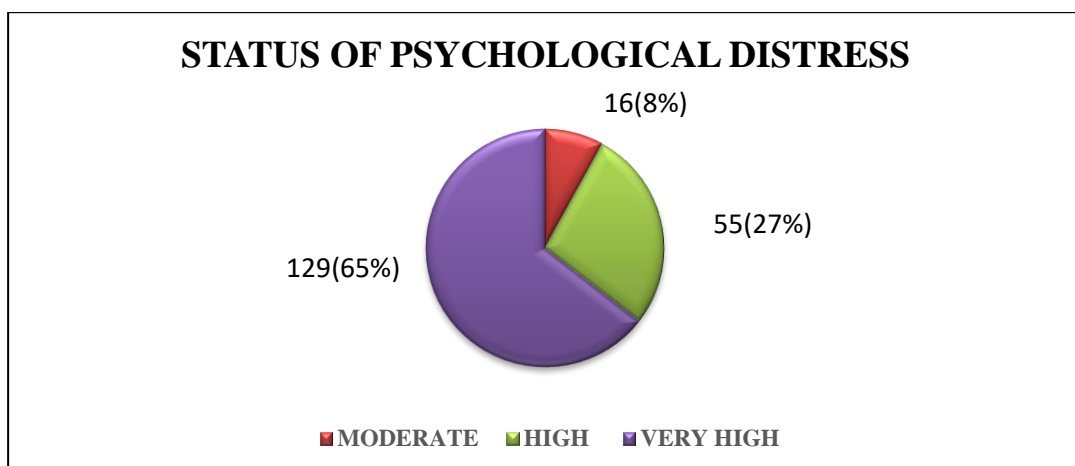
<b>S.NO</b>	<b>PSYCHOLOGICAL DISTRESS</b>	<b>NO. OF PATIENTS (N=200(%))</b>
1	LOW	0
2	MODERATE	16(8%)
3	HIGH	55(27%)
4	VERY HIGH	129(65%)

Score under 20 are likely to be well,

Score 20-24 are likely to have a mild mental disorder,

Score 25-29 are likely to have moderate mental disorder,

Score 30 and over are likely to have a severe mental disorder,.



**Fig 14: Psychological distress**

As shown in the above fig, Out of 200 patients, based on k-10 questionnaire 129 patients are with Moderate risk, followed by 55 patients with higher risk, and 16 patients are with moderate risk and zero patients have lower risk respectively.

## DISSCUSSION

Alcohol consumption and tobacco use are closely linked behaviors. Thus, not only people who drink alcohol more likely to smoke (and vice versa) but also people who drink larger amounts of alcohol tend to smoke more cigarettes the present study found that high-risk alcohol consumption, high psychological distress and current smoking were all significantly and independently associated with a greater likelihood of presenting to an emergency department in the last year, after adjusting for age, sex, household income and marital status. When these three risk factors are combined, the rate of emergency department presentation is higher than for each risk factor on its own. Many of these findings were significantly different between sex and age groups. In particular, it was notable that people aged 41-50 years had the highest rates of emergency department presentations and also the highest rates of having high psychological distress, and being a current smoker alcohol consumption, mental health problems and smoking with increased morbidity and mortality, there is inconclusive evidence about how these risk factors combine and if they are associated with increased attendance at emergency departments the population-level associations and interactions between alcohol consumption, psychological distress and smoking status with having presented to an emergency department

It is important to gain a better understanding of the independent and interactive effects of these risk factors and how they relate to emergency care in order to develop targeted prevention and intervention strategies in psychological distress.

In the present study, 200 subjects were analyzed regarding their tobacco and alcohol induced psychological distress and its consequences. The study revealed that majority of patients hospitalized were in the range, highest number of patients were under the age group of 41-50 followed by 61-70, 51-60, 31-40,21-30,71-80 and 81-90 i.e. 49(24%), 45(23%),



39(19%),34(17%), 20(10%), 10(5%) and 1(0.5%) patients respectively and the results found were supported by James Tsai *et al.*,<sup>[21]</sup>

Among 200 patient's males were 193(96%) whereas females were 7 (4%) indicating male patients are dominant over females which is similar to the study conducted by A.M.Reiset *al* .,<sup>[22]</sup> and Drum *et al.*,<sup>[23]</sup>. This may be due to males have more reward effects than females.

The prevalence of smoking in the present study is 7(3%), in which 9(5%) consumed smokeless tobacco. The prevalence of alcohol use in patients is 25(12%) and the results were supported by Patel J. *et al.* and Pathak NK *et al.* ,<sup>[25]</sup>.David J. Drobes *et al.* ,<sup>[15]</sup>

Presence of co-morbidities tells that, there are 50% of the patients suffering from either one or two or three or more than three co-morbidities and also reveals that maximum of the patients without co-morbidities will be prone them in near future i.e., AKI, Hypertension, T2DM, CVA,CAD,DCLD and COPD with 1%, 17%, 7.5%, 3.5%, 0.5% and 1% and this study is supported by Saida sultan *et al.*<sup>[24]</sup>

Stress is considered as a major attribute for getting used to these social habits and also one of the reasons for not opting to cessation. This is due to increase in cortisol hormone in the patients, thus acting as stress-reliever.

Studies suggest that people who are dependent on alcohol are three times more likely to smoke and people who are dependent on smoke are four times more likely to dependent on alcohol. As they potentiate each other's effects. Combined use: the prevalence of co-use increased across socioeconomic status with poorer households co-using more than richer households. Tobacco consumption prevalence increased with poorer households than richer households as done by NirunIntarut *et al.*<sup>[26]</sup> Alcohol-related mortality and morbidity are high in socioeconomically low populations compared with individuals from advantaged areas Srinivasa VittalKatikireddi *et al.*<sup>[27]</sup>

Among 200 patients the risk of psychological distress based on FAST + AUDIT scale 129 patients are with Possible dependence, followed by 21 patients with increased risk and higher risk and 29 patients have lower risk respectively study which is similar to Nerys William *et al.*,<sup>[28]</sup> and based on K-10 scale Out of 200 patients, based on k-10 questionnaire 129 patients are with Moderate risk, followed by 55 patients are with higher risk , 16 patients are with moderate risk and zero patients have lower risk respectively.

Tobacco and alcohol consumption are the two social behaviors having interdependence on each other. These habits lead to consequences such as health related and socio-economic consequences. To reduce the repercussions and to increase patient quality of life in all terms, clinical pharmacist plays a major role in enhancing the positive outcomes in the patients, thus decreasing morbidity and mortality. As clinical pharmacist the most accessible person of the health care team to help the patient to overcome these habits by providing counselling regarding the withdrawal benefits and educating the patients regarding dependence, available interventions and economic benefits and referring them to rehabilitation centers. By monitoring the prescriptions we gauge them for drug interactions with social habits and also update the physician regarding these issues and the recent interventions available for treating these issues.

As a clinical pharmacist by providing counselling sessions to the patients and if necessary for family members and opting them to accept the risks and benefits caused by these habits will provide more abstinence in the patients and helps in improving patient quality of life.

## **CONCLUSION**

The combination of being a high-risk consumer of alcohol, having high psychological distress, and being a current smoker are associated with increased presentations to emergency departments, independent of age and sex. Now a days usage of alcohol and tobacco has been drastically increased it leads to several psychological distress it has been controlled by providing counselling to the dependent patients or by decreasing the manufacturing of addictive's this may lead to decrease in consumption and intake vice versa increase in patient health related quality of life. So, co-ordination of clinical pharmacist along with physicians as a member of health care team is necessary to improve the psychology of patients in eradicating the tobacco and alcohol consumption habits.

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**ANNEXURE:  
PROFORMA**

<b>Name:</b>	<b>IP No:</b>	<b>DOA:</b>
<b>Dept.:</b>	<b>Ward / Unit:</b>	<b>DOC:</b>
<b>Age / Sex:</b>	<b>Marital status:</b>	<b>DOD:</b>

**Provisional Diagnosis:**

**Admission Complaints:**

**History of Present Illness:**

**Co-morbidities:**

**GENERAL EXAMINATION**

**Vital Signs: Temp: PR: RR: BP:**

**Pallor: Icterus: Cyanosis: Clubbing: Lymphadenopathy: Edema:  
Thyromegaly:**

**SYSTEMS EXAMINATION:  
Affected:**

**Detailed Examination of System**

**CVS:**

**CNS:**

**RS:**

**GU/GI:**

**DERM:**

**Other Investigations :( ECG, ECHO, X-Ray...)**

**Lab Reports:**

**Drug Chart:**

S.NO	DRUGS PRESCRIBED	DOSE	ROUTE	FREQUENCY	DURATION

**WHO tobacco consumption questionnaire:**

1. Have you ever used any form of tobacco?

Smoking: Cigars/Beedi/ Others      Smokeless: Chewing / Snus/ Snuff/ Gutka / Others

2. Do you currently smoke tobacco on a: Daily basis/ less than daily

3. How old were you when you first started smoking cigarettes:      yrs

4. About how many years were you a smoker: <1yr / 1-5yrs/ 5-15yrs/ >20yrs

5. How many cigarettes on average did you smoke per day?

6. Have you ever attempted to quit any form of tobacco?

7. What are/were the reasons that you attempted to quit?

High price of cigarettes

Disapproval of friends/relatives

Hospitalization



## Health problems

Concern over health of others in household or future health risks

Other:

8. Have you ever visited a doctor regarding health issues:    Yes    No
9. During the visit to doctor have you ever advised to quit?    Yes    No
10. Are you aware of the dangers of tobacco consumption?    Yes    No
11. Quantity of tobacco purchased:
12. Cost of the product:
13. Do you have any occupational or job stress:

### **FAST+AUDIT:**

**TotalScore: 0-7: lower risk    8-15: Increased risk    16-19: Higher risk    20+: Possible**

### **dependence**

1. How often do you have a drink containing alcohol and since how many years\_
- a) Never b) Monthly or less c) 2 to 4 times a month d) 2 to 3 times a week e) 4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
- a) 1 or 2 b) 3 or 4 c) 5 or 6 d) 7 to 9 e) 10 or more
3. How often do you have 5 or more drinks on one occasion?
- a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?
- a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?
- a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because of your drinking?

a) Never b) Less than monthly c) Monthly d) Weekly e) Daily or almost daily

9. Have you or someone else been injured because of your drinking?

a) No b) Yes, but not in the last year c) Yes, during the last year

10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?

a) No b) Yes, but not in the last year c) Yes, during the last year

**THE KESSLER PSYCHOLOGICAL DISTRESS SCALE (K10)**

<b>S.NO</b>	<b>Questions</b>	<b>All of the time</b>	<b>Most of the time</b>	<b>Some of the time</b>	<b>A little of the time</b>	<b>None of the time</b>
1.	In the past 4 weeks, about how often did you feel tired out for no good reason?	5	4	3	2	1
2.	In the past 4 weeks, about how often did you feel nervous?	5	4	3	2	1
3.	In the past 4 weeks, about how often did you feel so nervous that	5	4	3	2	1

	nothing could calm you down?					
4.	In the past 4 weeks, about how often did you feel hopeless?	5	4	3	2	1
5.	In the past 4 weeks , about how often did you feel restless or fidgety?	5	4	3	2	1
6.	In the past 4 weeks, about how often did you feel so restless you could not sit still?	5	4	3	2	1
7.	In the past 4 weeks, about how often did you feel depressed?	5	4	3	2	1
8.	In the past 4 weeks, about how often did you feel that everything was an effort?	5	4	3	2	1
9.	In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?	5	4	3	2	1
10.	In the past 4 weeks, about how often did you feel worthless?	5	4	3	2	1
<b>TOTAL SCORE</b>						

Score under 20 are likely to be well, score 20-24 are likely to have a mild mental disorder, score 25-29 are likely to have moderate mental disorder score 30 and over are likely to have a severe mental disorder