Substance Abuse

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What are Substances

Substance, in the context of ‘substance abuse ’refers to any psychoactive chemical that alters sensory experiences and produces a ‘reward’, i.e. pleasure or alleviation of discomfort (Macdonald, 1984)

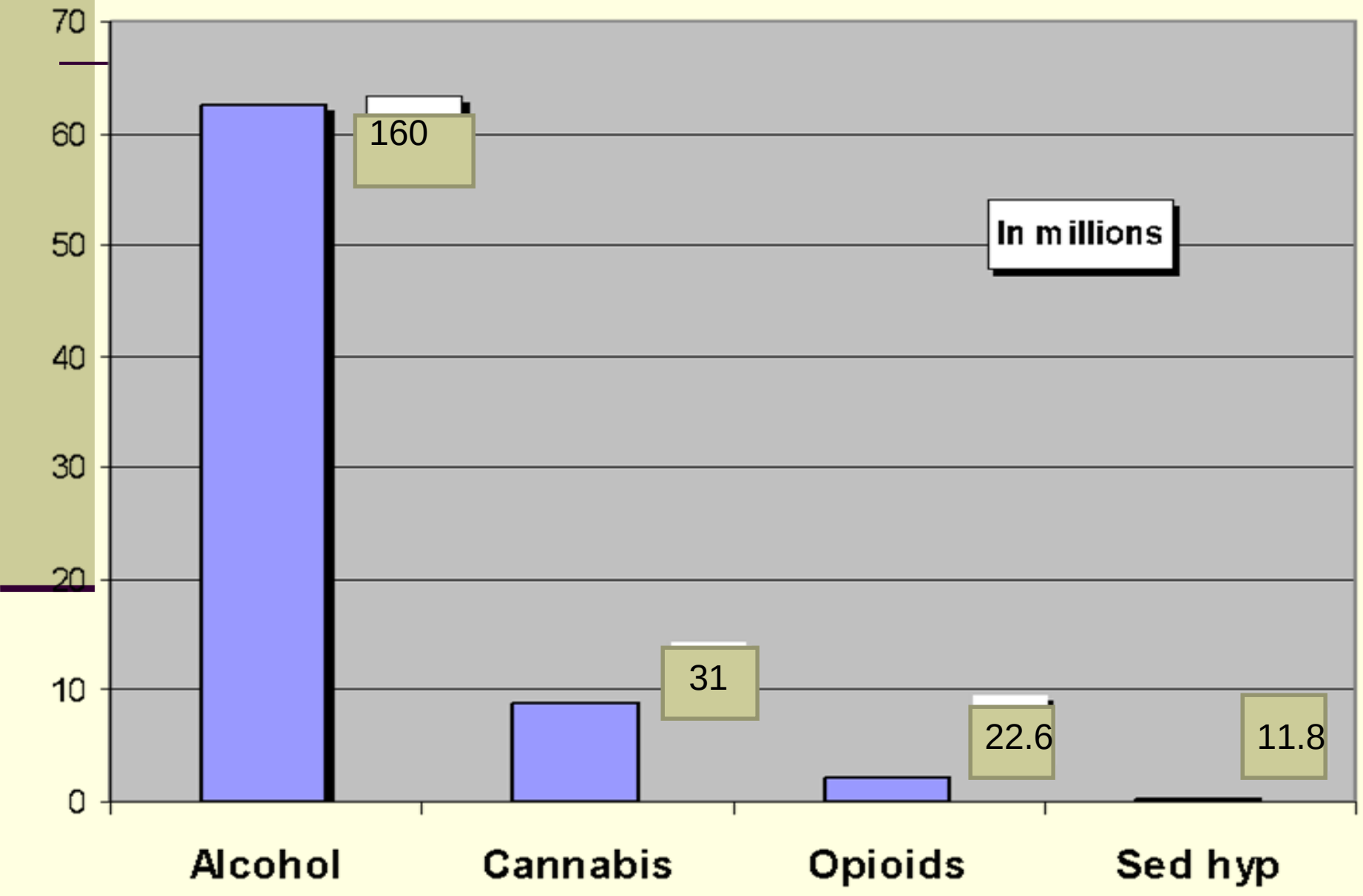
The term substance or drug maybe used interchangeably.

Commonly used Substances

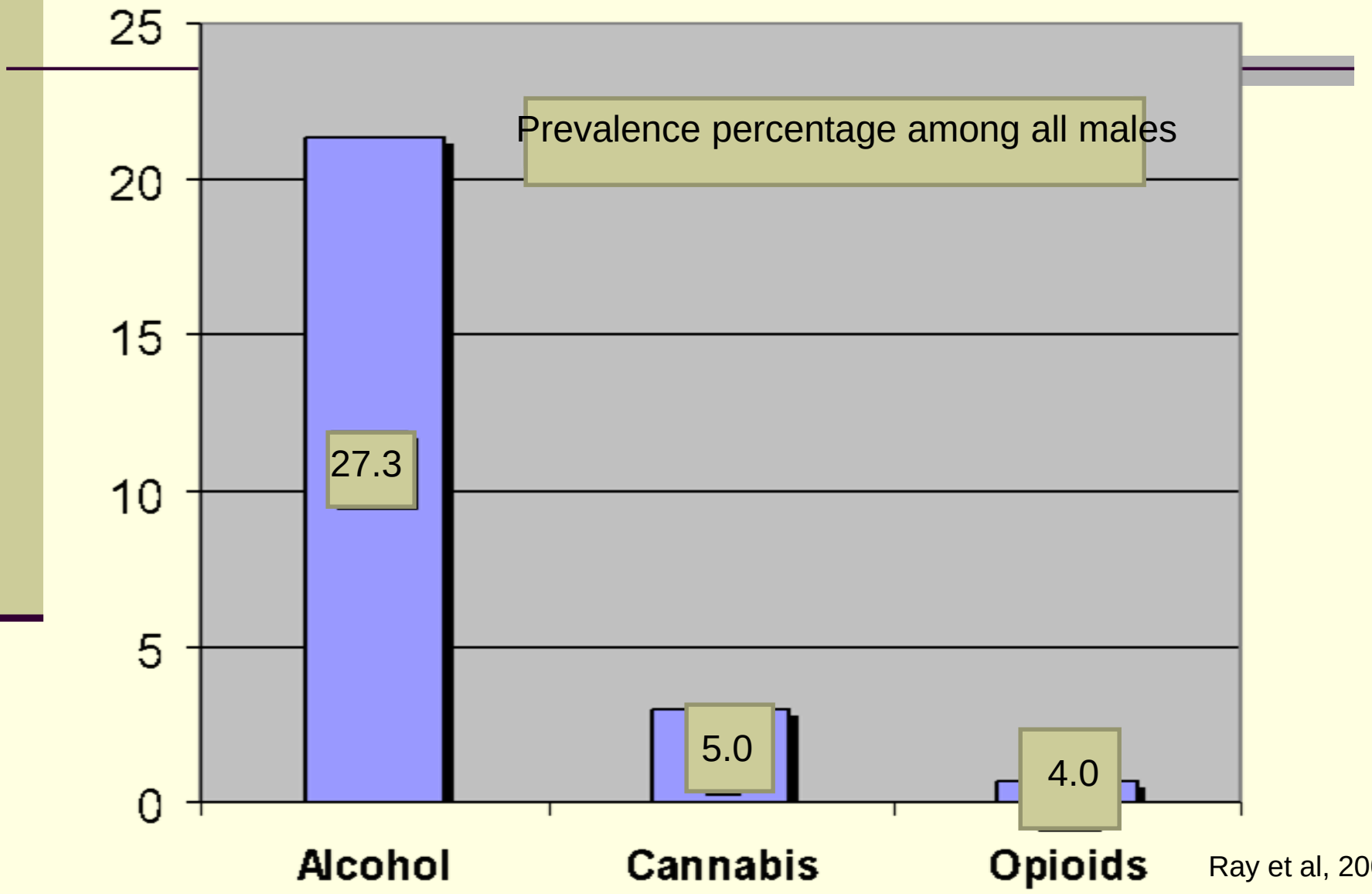
- **Tobacco**- cigarette, biri, gutkha, jarda, khaini and pan parag.
- **Alcohol**
- **Cannabinoids** like ganja, bhang, charas
- **Opioids** like opium, heroin, spasmoproxyvon and codeine as in cough syrups
- **Sedative** and **Hypnotics**
- **Solvents-** dendrite, correction fluid
- **Stimulants**.

Extent of the Problem

Current Users (in millions)

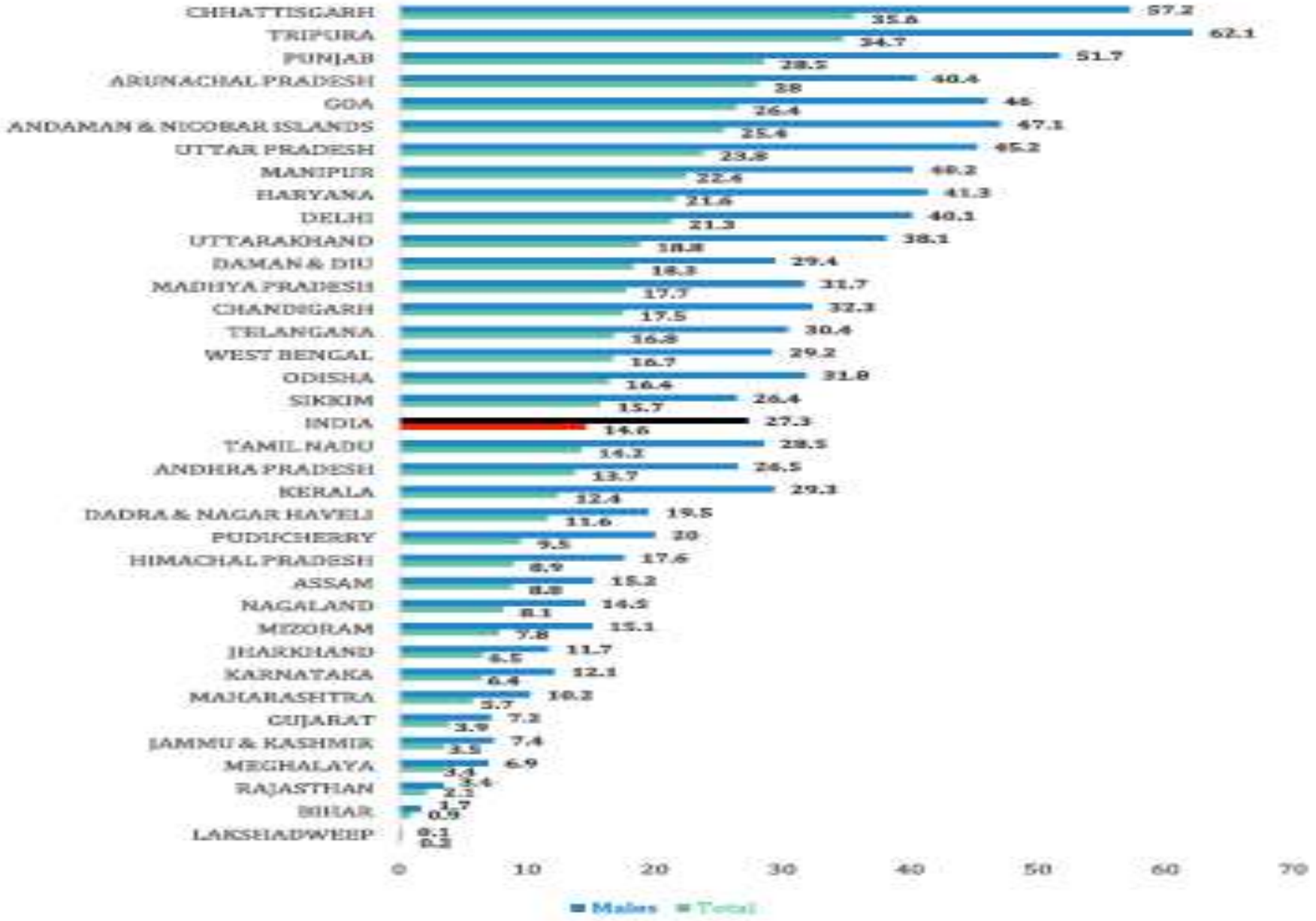


Prevalence % Among All Males

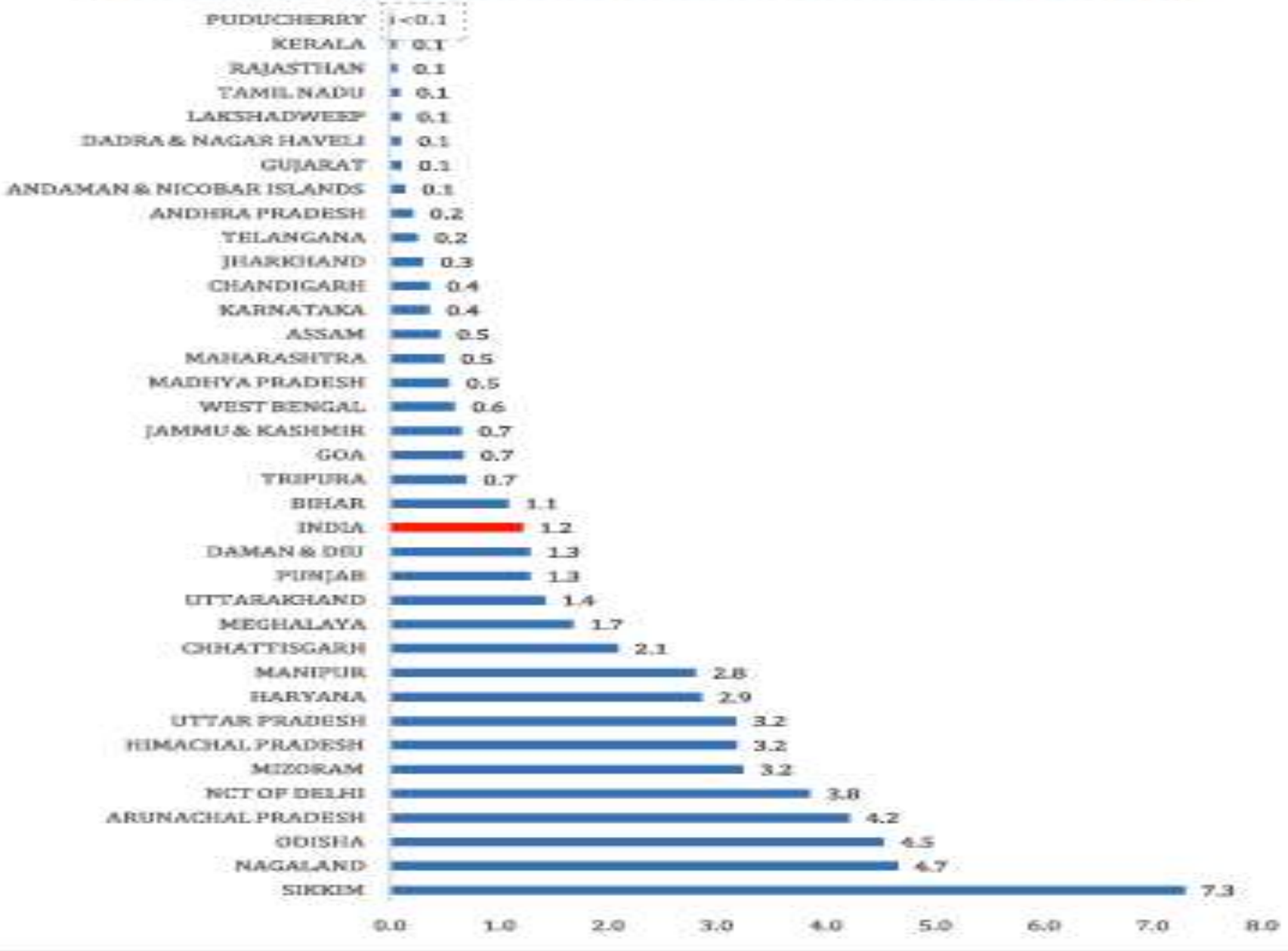


Ray et al, 2004

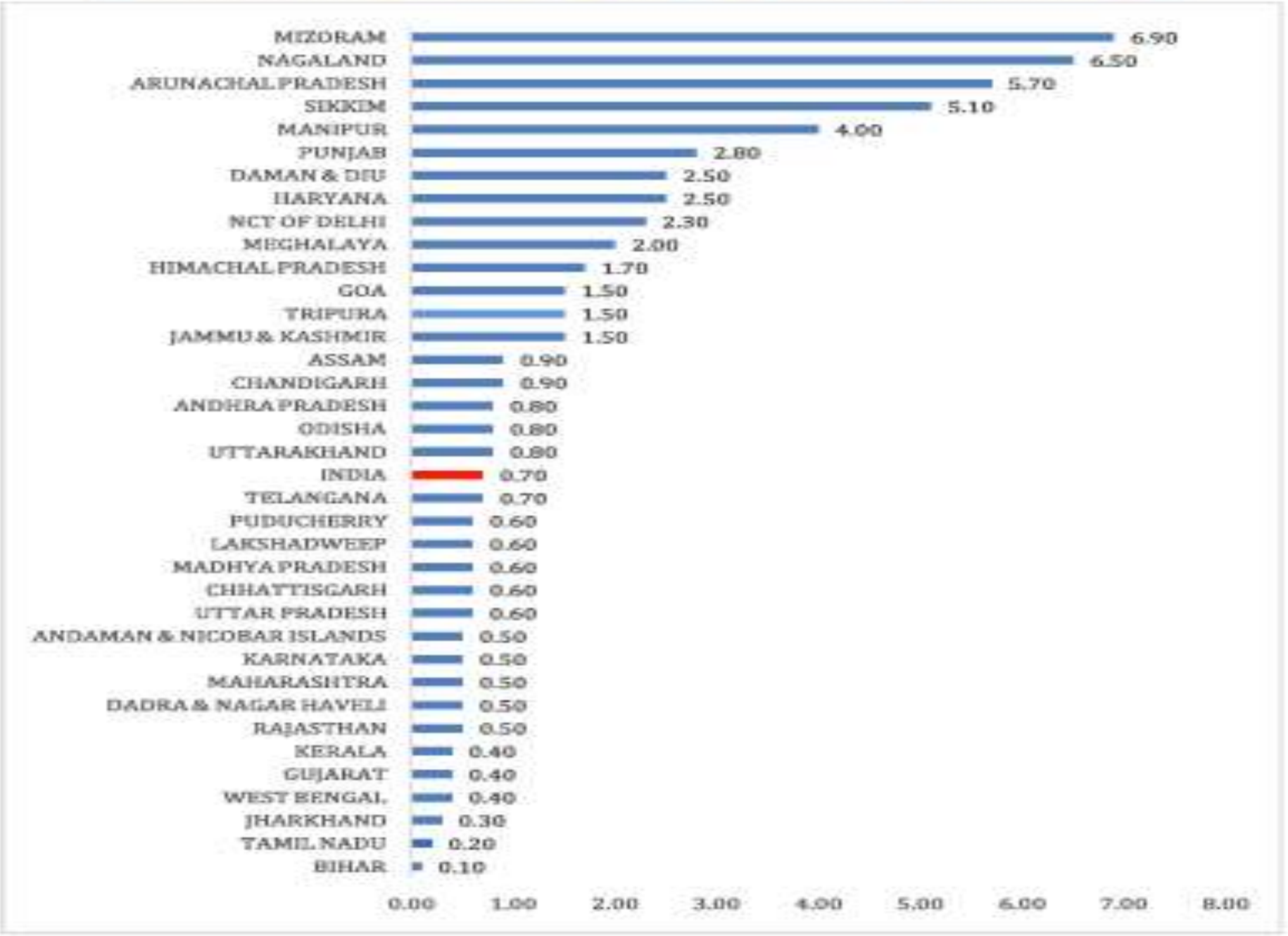
INDIA AND STATES: PREVALENCE OF CURRENT ALCOHOL USE (10-75 YEARS), IN %



PREVALENCE OF CURRENT USE OF CHARAS/GANJA, INDIA (10-75 YEARS), IN %



India and states: 'Quantum of Work' - Opioids (10-75 years), in %



Terminology

- **Intoxication**: Experience of substance with reversibility.
- **Harmful Use:** Medical/physical negative consequence.
- **Misuse:** Use beyond physicians prescription.
- **Abuse:** Both psychosocial and medical negative consequences.
- **Dependence/ Addiction:**

Dependence.

- **Dependence** refers to the physiological state of adaptive changes in the brain produced by repeated administration of **chemicals**. This necessitates continued administration to prevent the appearance of withdrawal symptoms (Stahl, 2003)

Dependence : Criteria

1. Continuation of use despite negative consequences.

2. Excessive preoccupation with the chemical.

3. Impairment or loss of control.

4. Thinking distortions, notably “denial”.

5. Tolerance

6. Withdrawal

Perception and reality

From use through abuse to dependence

How society perceives the substance abuser

- The most common view being the general assertion that drug abuse is simply a moral problem.
- It is essentially about a ‘wicked person’ who chooses to become an addict- therefore he is to be shamed and punished and that is all he deserves.
- At best he/she is a victim of his socio-familial condition.

The unprecedented advancement in neurobiology and behavioural sciences, on the contrary, has established drug addiction as a **brain disorder** - **a chronic, relapsing medical illness,** comparable to chronic disease like diabetes mellitus. (Leshner, 1997; McLellan et al. 2000)

Drug abuse……a continuum

Drug abuse takes place in a continuum. At one end it begins with an initial exposure to the drug, which is usually voluntary in nature. At the other end of the spectrum lies dependence. This dependent state entails a person's loss of control over the use of chemicals.

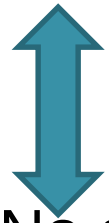
- Thus while the determinants of the early stages of involvement with drugs is more of psychosocial in nature (Environment, peers, stress, cultural sanction etc).

- The dependent stage involves a biologically altered state of brain. A dependent brain is a changed brain.

Stages of chemical dependence

Not Likely to become dependent

- Initiation of use
- Social or Moderate use



- Abuse(No denial)

Likely to become dependent

- Initiation of use
- Social or moderate use
- Abuse(denial)

- Dependence
- Mental illness or death

Signs and Symptoms

- Abrupt changes in work or academic engagement
- Deterioration in quality of work, work output, grades, discipline.
- Unusual flare-ups or outbreaks of temper.
- Withdrawal from responsibility. General changes in overall attitude.

- Deterioration of physical appearance and grooming.
- Wearing of sunglasses at inappropriate times.
- Association with known substance abusers

- Unusual borrowing of money from friends, co-workers or parents.
- Stealing small items from employer, home or school.
- Secretive behavior regarding actions and possessions

What causes dependence

- Biological factors
  - Genetics
  - Neurotransmitters
- Environmental factors
- Psychosocial factors
- Individual factors

Biological- Genetics

- Identical twins have higher concordance of addiction than fraternal twins (the more genes you share, the more similar your addiction propensity).

- Men whose parents were alcoholics have an increased likelihood of alcoholism even when adopted and raised by non-alcoholic parents from birth

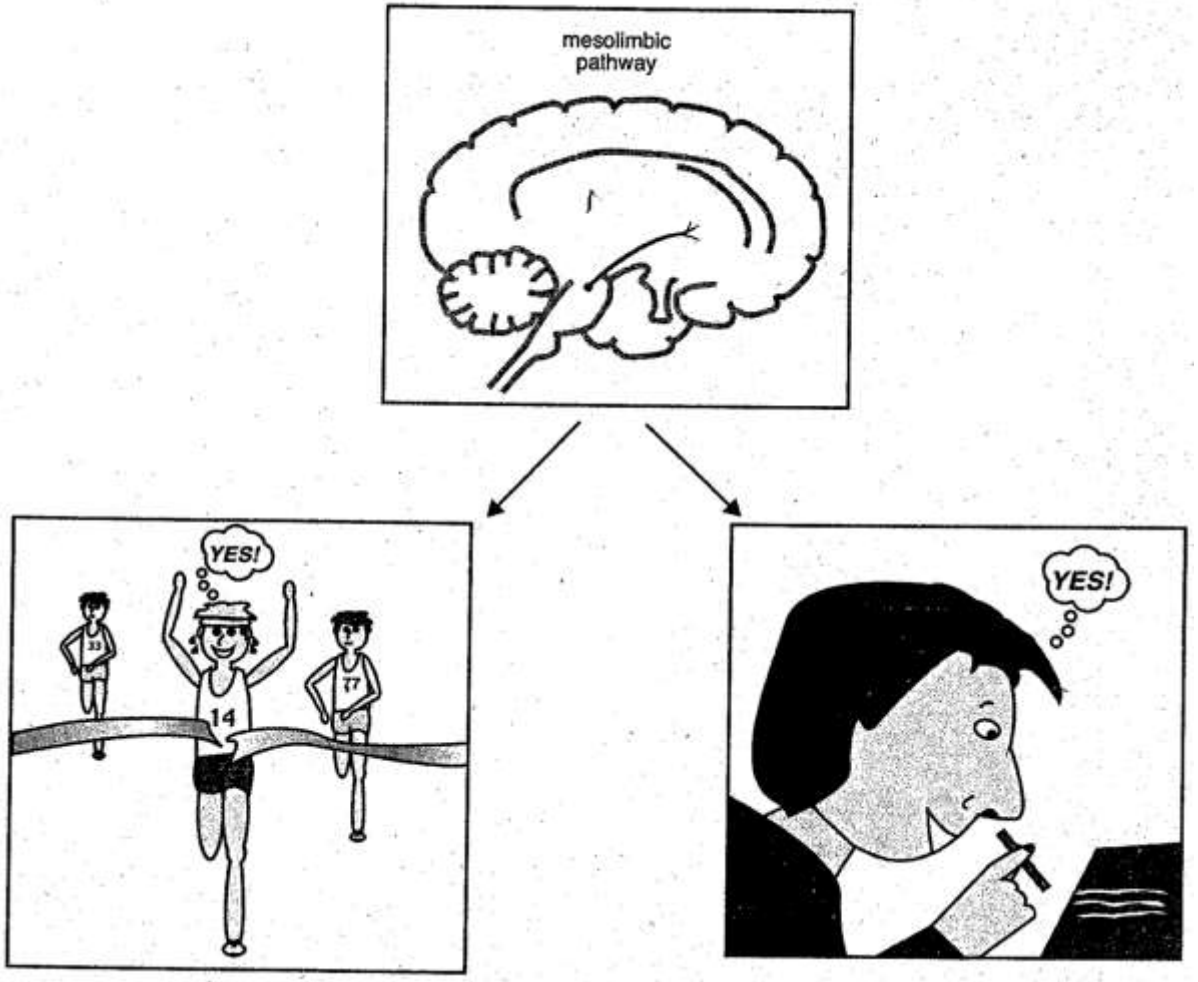
Biological- Neurotransmitters and reward pathway

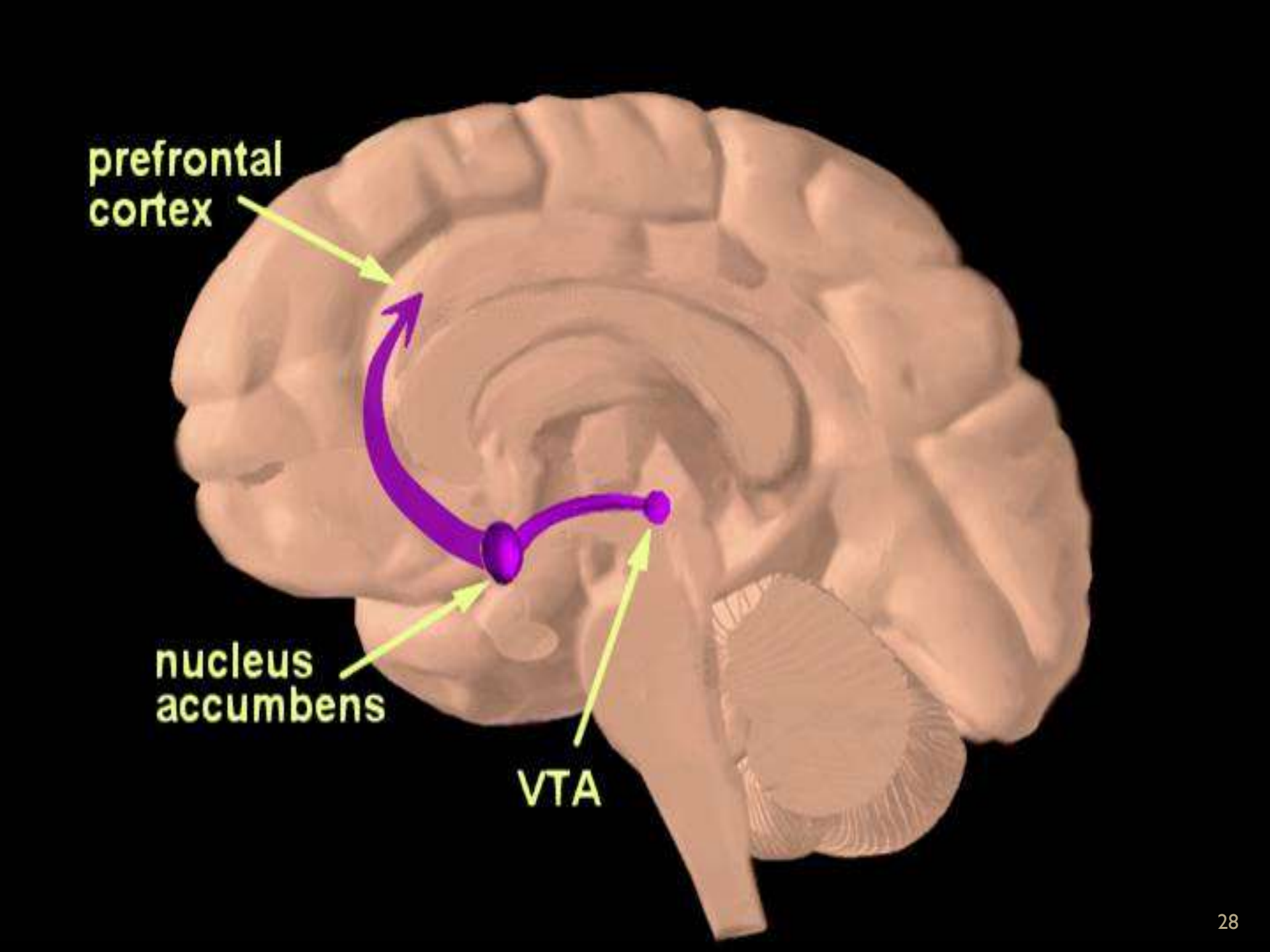
The “mesolimbic” pathway uses reward (often a sense of well-being or pleasure) to promote life sustaining and life fulfilling behaviors (eating, drinking, sex, nurturing, good performance, etc)

Chemicals causing dependence are identifiable by their ability to stimulate dopamine secretion in this pathway

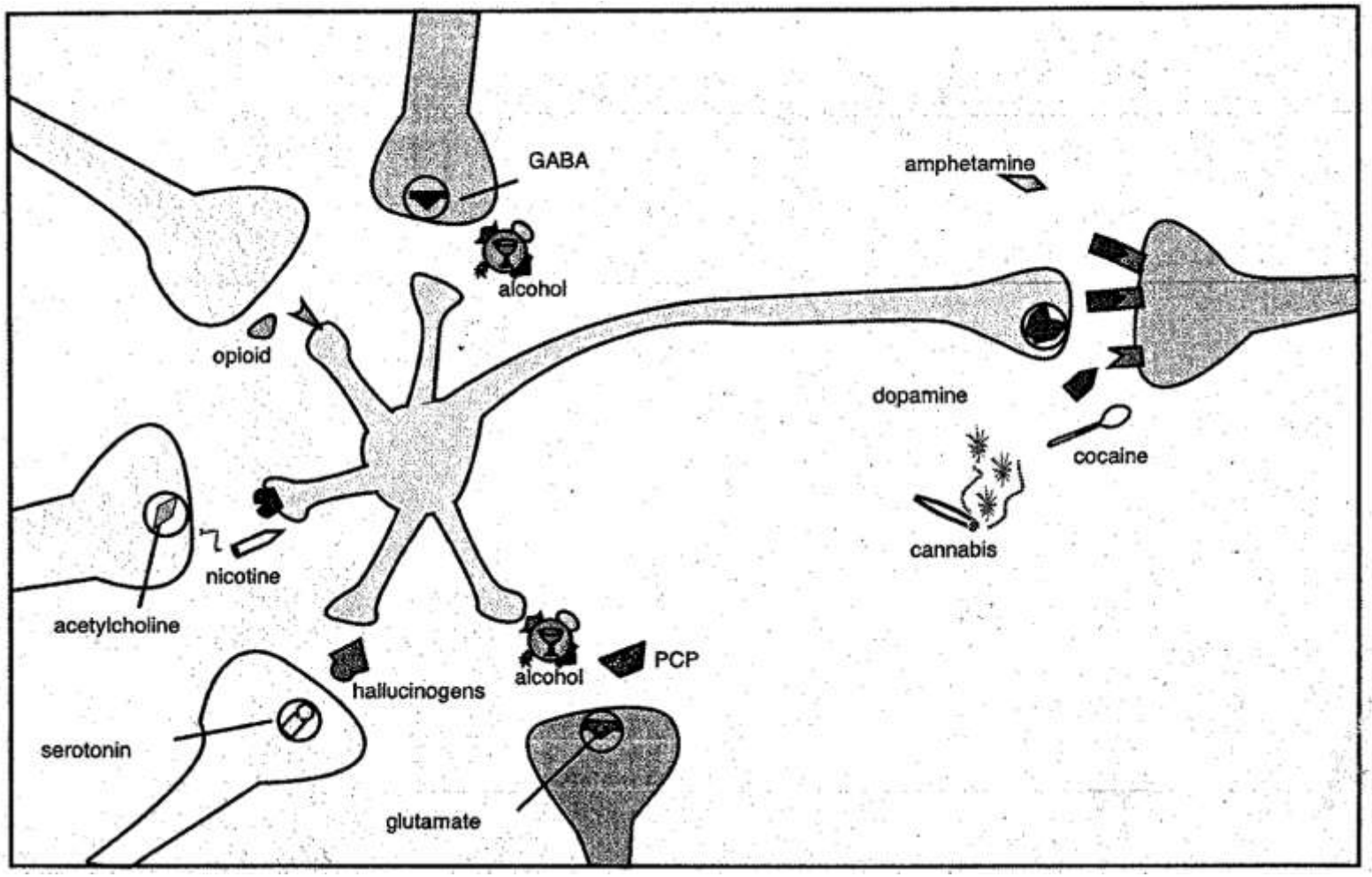
Chemically dependents are identifiable by their unique response to addictive chemicals by hypersecretion of dopamine in this brain pathway

Mesolimbic Dopamine Pathway and the Psychopharmacology of Reward




prefrontal
cortex
nucleus
accumbens
VTA

Drugs affecting the mesolimbic dopaminergic neurons



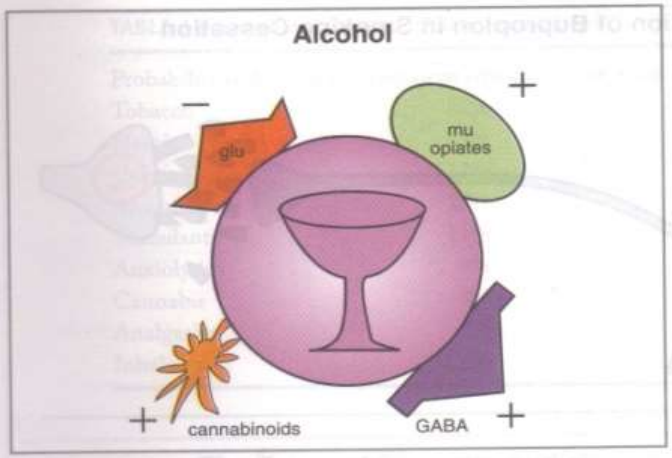


FIGURE 19-22 Icon of alcohol. In addition to enhancing GABA inhibition and reducing glutamate excitation, alcohol also enhances euphoric effects by releasing opiates and endocannabinoids, perhaps thereby mediating its "high."

CAUSATIVEFACTORS

✗BIOLOGICAL(Genetic, Neurotransmitters and reward pathway)

✓ENVIRONMENTAL

PSYCHOSOCIAL

INDIVIDUAL

Environmental:

- Widespread drug availability
- High crime rate
- Poverty and industrial decline
- Acceptance of drug within the community

CAUSATIVEFACTORS

✖BIOLOGICAL(Genetic, Neurotransmitters and reward pathway)

✖ ENVIRONMENTAL

✓PSYCHOSOCIAL

INDIVIDUAL

Psychosocial;

- Low parental affection
- Childhood abuse
- Parental substance misuse
- Family conflict
- Lack of communication between parents and children
- Drug using peers
- Peer rejection
- Failure at school
- Dropping out of school.

CAUSATIVEFACTORS

✗BIOLOGICAL(Genetic, Neurotransmitters and reward pathway)

✗ ENVIRONMENTAL

✗ PSYCHOSOCIAL

✓ INDIVIDUAL

Individual risk factors

- Low self esteem
- High sensation seeking or risk taking
- Self destructive behaviour
- Early and persistent behavioural problems
- Mental health problems
- Homeless and in foster care

What protects

Protective factors

- Positive temperament
- Intellectual ability
- Supportive family environment
- Caring relationship with at least one adult
- External support system that encourages positive values
- Social support system that encourages personal efforts

What can be done

- Supply reduction
  - Social policy and legal efforts
  - Reducing availability, Manipulation of price of licit drugs and implementation of age restrictions.
- Demand reduction
  - Sensitization and awareness building
  - Lifeskills training

Management

Pre-treatment

Levels of Motivation

Patients come with different levels of motivation

- Pre-contemplation: Not considering changes
- Contemplation: Recognition of need to change and Cost/benefit analysis.
- Determination Stage: Decision to take action.
- Action and Maintenance: Action taken for change.

Pre-treatment and Motivational interviewing

- Motivational Interviewing is most suited as an intervention technique at this level of pre-treatment to bring about internal change.

Motivational Interviewing

- The Core Principles of MI

- Express empathy
- Develop Discrepancy
- Avoid argumentation
- Roll with resistance
- Support self-efficacy

Management

Treatment

Stages in Treatment.

Patient:

1. Detoxification
2. Relapse prevention
   A. Pharmacotherapy
   B. Psychotherapies
   C. Self-help Groups

Family:

1. Family therapy
2. Self-help groups

Detoxification :Alcohol

Alcohol Withdrawal

- Typically begins 6-8 hours after last drink, peaks at 24-72 hours after last drink and generally resolves within 7 days.

- Withdrawal symptoms: sweating, high pulse rate, tremor, insomnia, nausea, vomiting, agitation, anxiety, complicated withdrawal.

Alcohol Withdrawal

Pharmacotherapy

Only moderate to severe withdrawal needs to be managed aggressively.

Investigations : FBC, U&Es, LFT including GGT, Coagulation Profile, Chest X-ray, ECG.

Long acting Benzodiazepines, usually Chlordiazepoxide;

Reconsider shorter acting like Lorazepam or Oxazepam in elderly, liver failure, hypersensitivity.

Supplementary : Vitamins and management of associated problems.

Opiate Withdrawal

- S/S of Opiate withdrawal:

Time of withdrawal depends on the type of opiate used. Patient knows !

For Heroin, w/s usually begin about 8-12 hours after last use, peak between 36 and 72 hours and subside over about 5 days.

Protracted abstinence syndrome including disturbance of mood and sleep can persist for 6-8 months.

Opiate Withdrawal contd.

- S/S of opiate withdrawal

Early : anorexia, anxiety, craving, dysphoria, lacrimation, irritability, perspiration, piloerection, rhinorrhea, yawning.

Advanced: abdominal cramps, loose motion, hot and cold flushes, increased pulse and BP, muscle and bone pain, pupillary dilatation, nausea and vomiting.

Opiate withdrawal

Pharmacotherapy

- Clonidine
- Methadone substitution and taper
- Buprenorphine substitution and taper

- Adjunctive therapy: NSAIDs, benzodiazepines, antiemetic, antimotility drugs and muscle relaxants

Cannabis Withdrawal

- Recently described.

- Begins 2-3 days after cessation of use.
- Generally mild
- Duration varies (12-115 days)

- **Most frequently seen**: cannabis craving, anxiety, restlessness and/or irritability, insomnia, changes in appetite, boredom, improved memory.

- **Less frequently seen**: Tremor, sweating, tacchycardia, nausea, vomiting diarrhea, change in libido, depression

Cannabis withdrawal treatment

- NO specific medical treatment is generally needed.

Management
Treatment

Patient:

1. Detoxification
2. Relapse prevention
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   B. Psychotherapies
   C. Self-help Groups

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Management

Relapse Prevention

SUD: Integrated Therapy.

Of all the major Psychiatric disorders, Substance Use Disorder is one where the process of rehabilitation requires pharmacotherapy and psychotherapy to work completely in tandem.

Treatment is always incomplete without the use of both these modalities simultaneously .

Pharmacotherapy and Rehabilitation

These involve:

- Clinical resolution of symptoms.
- Social integration and restoration of functional impairment.
- Subjective sense of wellbeing.

Pharmacotherapy

- Alcohol
  A. Acamprosate
  B. Naltrexone
  C. Disulfiram

- Opiates
  A. Naltrexone
  B. Methadone
  C. Buprenorphine

Psychotherapies

A composite rehabilitation programme involves an eclectic therapeutic approach where elements of different types of individual psychotherapy and group therapy is used in an integrated way

- Individual: Psycho-education, CBT, motivational interviewing, brief intervention and dynamic therapy.
- Group therapy

Rehabilitation plan for Relapse Prevention

t

- Psychosocial, Psychological, Medical and Activities

- **Clinical Formulation**
  - Interpretation of the assessment

- **Master problem List**
  - Primary problem areas to be addressed in Therapy

- **Treatment Plan**
  - Detailed plan of problems, goals and objectives and action plan and follow up.

Case History

- **Identification**: Male, 52 years, Married with one son. Marketing consultant in FMCG and drinking history spanning 30 years. Came at own initiative " To get recovery right"
- **Initial Diagnosis:** Alcohol Dependence and Nicotine Dependence
- **Antecedent Conditions:** Family lived in Ahmedabad and father had to support relative in Bangladesh who had financial difficulties. Had to manage two jobs so patient hardly saw father.

  Patient was dependent on mother for everything.

  Patient had two incidents of sexual abuse.

  Disrupted academic history due to political unrest in 70's and also could not study his preferred subject.

  Set up a music band and relationship with alcohol began in college. Rebelling against family values and parents.

Case history

Went through a number of jobs. Settled into the current one. Quit it for 10 years and rejoined. Drinking continued to increase in his job as a marketing professional.

Influencing Conditions:

- Job requires entertaining clients and alcohol use.
- Patient feels due to lack of a formal degree he has a pressure to perform.
- Patient finds it difficult to handle boredom and drinks to occupy time.
- Patient tends to relapse after some conflict, altercation or negative feelings.

Clinical Formulation

Effects of Addiction. Patient has mood swing and gets violent and abusive with family members. Had a few small accidents, been reprimanded by boss, reputation is destroyed,. Most of all he regrets the growing up years of his son.

Final Diagnosis: Alcohol dependence and Nicotine Dependence

Problem List:

- Patient continues to use despite negative consequences
- Patient is very driven to achieve to compensate for his lack of formal education. This may be a block in recovery.
- Patient has difficulty in handling his negative emotions and boredom and would be a trigger to relapse.
- Patients history of sexual abuse and unresolved issues will be a block in recovery.
- Patient has a history of repeated relapse and may be a block of recovery.

Master Treatment Plan

Problem no 1: Patient continues to use despite negative consequences.

Goal: Patient will come to understand the harmful effects of alcohol in his life.

Objectives: Patient will complete a written assignment on harmful consequences.

Anticipated date of completion:

Actual date of completion:

Patient will complete a written 1st Step assignment.

Patient will write a detailed life story – emphasis to be on chemical use.

Patient will attend Alcoholics Anonymous meetings.

Patient will read the AA big Book.

Problem 2: Patient seems driven to compensate for his lack of formal education. This may be a block in recovery.

Goal: Patient will come to realise the negative relationship between his drive to achieve and alcohol use.

Objectives:

1.Pt. will write about 10 incidents when he felt he needed to do better than others so that nobody would comment on his lack of formal education and its relationship to his drinking.

2. Patient will write about 10 instances at work when he had done well and was appreciated.

3.Patient will discuss with counsellor about ways in which this “drivenness” may be handled. He will identify cognitive errors that lead to this and how he may change that.

Problem 3: Patients history of sexual abuse and unresolved issues will be a block in recovery.

- Goal: Patient will come to see his sexual abuse of one part of his life and try to work to put it behind him.

- Objectives:

1.Patient will work through the Trauma Focused Cognitive Behaviour Therapy Programme throughout the rehabilitation process in tandem with the other objectives.

Psycho-education, learning relaxation techniques to cope with flashback. Identification of emotions as related to trauma, Identifying cognitive errors, writing the trauma narrative and sharing the narrative many times.

Problem 4: Patient has difficulty handling boredom as well as negative emotions. This may be a trigger to relapse.

Goal: Patient will come to understand the relationship between his relapse and his inability to handle negative emotions and boredom**.**

Objectives: Patient will write about 5 incidents when intense negative emotions and boredom have led him to drink

2. Patient will read pamphlet on " Now what do I do for fun".

3. Patient will discuss with counsellor issues of anger or resentments that he holds on to so that there could be some movement towards resolution. Counsellor will also discuss Cycle of Violence

4. Patient will develop a plan on how he hopes to cope with these issues in future.

Problem 5: Patients history of repeated relapse may be a block in recovery

Goal: Patient will come to realize and understand his own relapse process and ways to stop it

Objectives:

1. Patient will complete the Relapse Fantasy Assignment.
2. Patient will identify his own relapse triggers- internal and external cues as well as people, places, situations and mental states that may lead him to relapse.
3. Patient will read booklet " Out of the Fog"
4. Patient will develop a plan of action for arresting the relapse process. Identify his support systems that he will use.
5. Patient will complete a written assignment on Dry Drunk Syndrome.

Management
Treatment

Patient:

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Self Help Groups

- Alcoholics Anonymous
- Narcotics Anonymous

Family Assessment and Intervention

Codependency

Psycho-education

Al-anon

Conclusion

- Adolescence and young adulthood is a critical period for initiation of substance abuse.
- Oops I got addicted!
- Smoking is a gateway drug which leads to further abuse of different substances
- It is important to develop refusal skills
- Early identification and early treatment has better prognosis.

In changing times it is essential that each individual remains aware of the consequences of substance use, its attendant almost irreversible damaging changes in the brain, and make their own choices.