STANDARD TREATMENT GUIDELINES FOR THE MANAGEMENT OF SUBSTANCE USE DISORDERS AND BEHAVIOURAL ADDICTIONS

National Programme for Tobacco Control and Drug Addiction Treatment
Ministry of Health and Family Welfare
Government of India
2020

Standard Treatment Guidelines for the Management of Substance Use Disorders and Behavioural Addictions

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STG Guideline Development Group

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सबका साथ, सबका विकास, सबका विश्वास
Sabka Saath, Sabka Vikas, Sabka Vishwas

सत्यमेव जयते

डॉ हर्ष वर्धन
Dr Harsh Vardhan

स्वास्थ्य एवं परिवार कल्याण, विज्ञान और प्रौद्योगिकी व पृथ्वी विज्ञान मंत्री, भारत सरकार
Union Minister for Health & Family Welfare, Science & Technology and Earth Sciences Government of India

Message

Substance Use Disorders pose a significant problem in the country and are associated with substantial morbidity and disability for the individual and suffering for the family. Considering the large numbers that are affected due to Substance Use Disorders, steps are being taken to bring awareness and to make treatment more accessible. Also, capacity building of non-specialist medical officers in the country has been a thrust area for the Drug De-Addiction Programme (DDAP) under the Ministry of Health and Family Welfare.

2. In the previous two decades, several short-term training programmes for General Duty Medical Officers (GDMOs) employed by the State Government Health Service were conducted by National Drug Dependence Treatment Centre (NDDTC), All India Institute of Medical Sciences (AIIMS) along with National Institute of Mental Health and Neuro-Sciences (NIMHANS) Bengaluru; King Edward Memorial Hospital (KEM) Mumbai; Regional Institute of Medical Sciences (RIMS), Imphal; and several other institutions in the country.

2.1. Along with the development of training curriculum and conducting training programmes, an important capacity building initiative of DDAP has been development of resource materials such as manuals and handbooks for physicians, nurses, and paramedical staff on pharmacotherapy and psychosocial interventions.

Contd/-2

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Many of these initiatives of DDAP are supported by World Health Organization (WHO) (India).

3. The Standard Treatment Guidelines (STGs) for management of Substance Use Disorder and Behavioural Addiction have been developed as a resource material for the general physicians in primary care setting to provide them the necessary know-how for assessment and management of this disorder. These guidelines, I am told, are created by a group of experts from several premier institutions in the country including NIMHANS-Bengaluru; AIIMS-New Delhi; Post Graduate Institute of Medical Education & Research (PGIMER)-Chandigarh; Vardhaman Mahavir Medical College Safdarjung Hospital, Atal Bihari Vajpayee Institute of Medical Sciences and Dr. Ram Manohar Lohia Hospital, New Delhi. I am also told that the guidelines were prepared after deliberations by a high-level expert committee constituted for this purpose under the chairmanship of Director (DDAP) of Ministry of Health and Family Welfare. The substances included in the guidelines, to name a few, are - cannabis, opioids, benzodiazepines, inhalants, stimulants, etc. Each chapter throws light on magnitude, pattern, clinical presentation and diagnosis of the disorder. The issues relevant to special populations and intervention specific for a substance are also mentioned. Suggestions on when the patient should be admitted and also when he/she should be referred for more specialized care, are also included.

4. The STGs have been kept simple, short and are based on what is deliverable in a primary care setting. I appreciate the efforts taken in preparation of STGs, which I am sure, will be very useful from public health perspective. I am hopeful that these guidelines will facilitate delivery of care by general physicians in both government and private sector.

(Dr. Harsh Vardhan)

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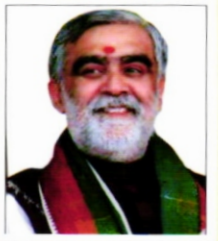

Message

Substance use disorders (SUD) are a growing public health problem, especially among youth and adolescents. A long list of problems occurs from substance use, ranging from health problems, to problems in the family, workplace and society. The harmful association of substance use with non-communicable disorders (NCDs) like cardiovascular, cancer, road traffic injury, as well as mental health is well established. Substance use increases the risk for a variety of communicable diseases like sexually transmitted diseases, tuberculosis and other diseases.

There are various stakeholders and different models of management for SUD available in the country. Drug De-addiction Program (DDAP) under the Ministry of Health has been implemented at various states and institutes. These Standard Treatment Guideline (STGs) developed by DDAP outlines a robust recommendation about the management of various Substance use disorders or Addiction. This will support the program management as well as to build the capacity of health care providers working at different levels.

I am sure these STGs will also help in making the appropriate decisions regarding the "best practice care" intervention in patients with Substance use disorders.

(Ashwini Kumar Choubey)

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स्वास्थ्य एवं परिवार कल्याण विभाग
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
Government of India
Department of Health and Family Welfare
Ministry of Health and Family Welfare

Message

Alcohol, tobacco and other psychoactive substances have been used by mankind since recorded history, through their pattern, extent and consequences have varied over place and time. Substance use disorders (dependence and harmful use) and hazardous use of substances are known to pose serious threat to the individual, family, community and the nation at large, in several ways – physical and mental health, interpersonal relationships, academic or occupational impairment, involvement in illegal activities and crimes, financial loss, and societal disruption on a mass scale. It is a medical issue with tremendous social, political and economic ramifications.

Recent epidemiological surveys at a national level have documented the extent, pattern and consequences of substance use disorders. They depict a rather alarming picture, with millions of people involved in this problem, including children and young people, women, other vulnerable populations.

Given the enormity of the problem, it is extremely unlikely that sufficient number of qualified psychiatrists will be available to deal with the problem in the conceivable future. Hence, it is felt to be vitally important to train and empower medical graduates and non-specialist medical doctors in this area so that they may identify, diagnose and treat the majority of persons with substance use disorders, and know when to refer them to specialist de-addiction facilities for complicated cases. Unfortunately, the current MBBS curriculum does not have sufficient space and time for psychiatric training in general and addition training is almost non-existent at the graduate level.

In order to fill this gaping lacuna between the needs and the resources, a High Level Expert Committee was constituted by the Ministry of Health and Family Welfare for the 'Preparation of Standard Treatment Guidelines for substance abuse in India" with the representatives of NDDTC, AIIMS, New Delhi; NIMHANS, Bengaluru; PGIMER, Chandigarh; PGIMER & Dr. RML Hospital, New Delhi and VMMC & Safdarjng Hospital, New Delhi. This Committee met first on July 8, 2019, followed by several other meetings. The Committee Members and their associates have worked very hard to prepare this document, which should be an essential component of the MBBS curriculum in order to sensitize, train and empower the medical graduates for the screening, intervention and referral where needed for dealing with substance use disorders in the community. This should also be very helpful as a ready resource to all non-psychiatrist medical practitioners who wish to upgrade their knowledge and skills in this important area.

India needs more of "task sharing" in many areas of healthcare where the needs far outstrip the resources, and substance use disorders merit a strong task sharing and early training strategy to deal with the magnitude of the problem. This book and related resource material (available as a repository in the Ministry's website) are an outstanding and timely effort in this direction.

(Preeti Sudan)

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Note: There are two earlier guidelines (mentioned below) developed by the Ministry of Health and Family Welfare, Government of India for tobacco and alcohol Dependence. Hence the present guidelines do not include the management of tobacco and alcohol dependence.

Tobacco Dependence: National Tobacco Treatment Guidelines 2011. Available at: https://ntcp.nhp.gov.in/assets/document/Guideline-manuals/Tobacco-Dependence-Treatment-Guidelines.pdf

Standard Treatment Guidelines for the Management of Alcohol Dependence. Ministry of Health and Family Welfare, Govt. of India. August 2017. Available at: http://qi.nhsrcindia.org/sites/default/files/Management%20of%20Alcohol%20Dependence.pdf

CHAPTER - 1

General Approach to the Management of Substance Use Disorders

Substances are chemicals with mind-altering properties that people use for pleasurable effects, relaxation or relief of distress.

Scope of this chapter

By the end of this chapter, the physician should:

- Know the different types of 'Substances' people commonly use
- Know the extent of substance use in India
- Be aware of the adverse consequences of substance use
- Appreciate why physicians must help persons with substance use disorders
- Understand the principles of management of persons with substance use disorders

1. Different types of substances

Substances are primarily classified based on their pharmacological properties. They can be licit and illicit substances (Table 1). Licit substances include prescription drugs used without a valid prescription primarily for their mind-altering effects.

Table 1 : Commonly used substances

Broad category	Types	Current Status
Tobacco	*Smoked* – Bidi, cigarette, hookah *Chewed* – Pan Masala, gutka, khaini, mawa, zarda, kaddipudi, *Inhaled* – Snuff Used as dentifrice	Legally sold to persons above 18 years of age Pan masala containing tobacco, is banned in most states
Alcohol	*Taken orally* Spirits (Indian made foreign liquor or IMFL), country liquor, beer, wine	Legally sold in most states of India, with varying age restrictions (with the exception of locally brewed or country liquor)
Cannabinoids	*Smoked* Ganja, charas, hashish *Taken orally* Bhang	Illicit Licit

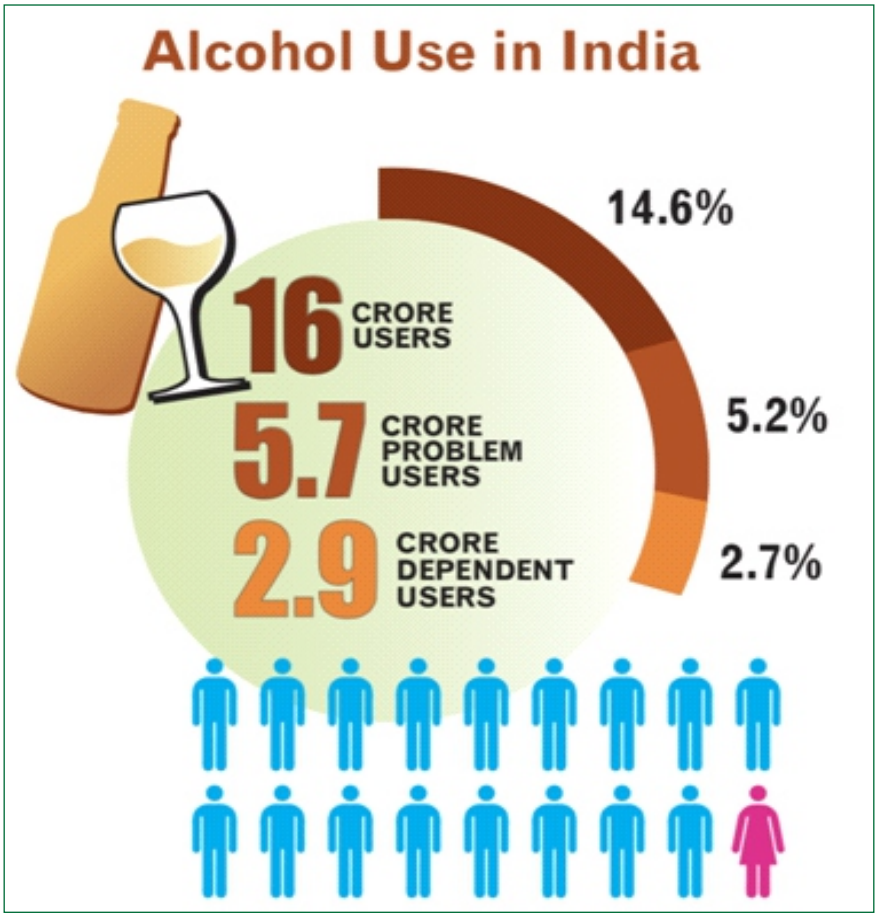
Opioids	*Smoked, chased or injected* Heroin, brown sugar *Taken orally or Injected* Opium, pentazocine, morphine, pethidine, dextropropoxyphene, codeine, tramadol, tapentadol	Illicit Many of the currently misused opioids are prescription drugs. Dextropropoxyphene has been banned because of increased misuse and seizures
Sedatives	*Taken orally / injected* Benzodiazepines (Clonazepam, diazepam, nitrazepam, lorazepam)	Licit, upon valid prescription Misused benzodiazepines are prescription drugs
Inhalants	*Inhaled or huffed* Paint, glue, petrol, whitener	Available for industrial or other purposes. Use of bottled whitener banned because of misuse potential
Stimulants	*Taken orally / snorted through nose / injected* Cocaine, amphetamine and its derivatives	Illicit Prescription amphetamines and stimulants have misuse potential
Hallucinogens	*Taken orally* LSD, psilocybin (Magic Mushrooms)	Illicit

2. The extent of substance use in India

The National Household Survey on Magnitude of Substance Use in India (2019) has estimated the prevalence of substance use among the population between 10-75 years:

Table 2 : Prevalence of substance use in India

	% Users	% Problem Users (Harmful and Dependent Users defined later in this chapter)	% Dependent Users
Alcohol	14.60	5.20	2.70
Cannabis	2.80	0.66	0.26
Opioids	2.10	0.70	0.26
Sedatives	1.08	-	0.11
Inhalants	0.70	0.21	0.08
Cocaine	0.18	-	0.03
Stimulants	0.18	0.06	0.02
Hallucinogens	0.12	0.03	-



Source: National Survey on Extent and Pattern of Substance Use in India (2019). Magnitude of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India. Ambedkar et al [1]

The data suggests that while there are disproportionately more men than women using the different groups of substances, there are a growing number of women users. Other research suggests that the age of onset of substance use is reducing and such increased use also predicts increased problems in the community. Occasional substance use may also lead to physical, mental, occupational and social problems.

The Global Adult Tobacco Use Survey of 2016-17 shows that 42.4% of adult males and 14.2% of adult females in India use tobacco.

3. The consequences of substance use

Use of substances in a harmful manner and the continued use of substances are both associated with many adverse physical and mental health outcomes. Substance use disorders (SUDs) [2] includes a spectrum of problems caused by the persistent misuse of mind altering substances, and can range from harmful use to dependence. Occasional use of substances can also cause harm from intoxication leading to harms to health and safety. Substance use not only has adverse impacts on the user, but it also leads to problems for the family and to society. Therefore, it is important for the physician to be able to effectively identify, diagnose and manage these problems. The specific consequences of each group of substances are presented in subsequent chapters.

4. Why physicians must help people with substance use disorders

The physician has an important role in the early identification and intervention as well as the prevention for SUDs for the following reasons:

i. SUDs constitute an important public health problem and are associated with increased mortality through premature death. They contribute in large part to morbidity directly (through accidents, overdose, violence) as well as indirectly (as preventable risk factors for communicable diseases like Hepatitis, HIV and tuberculosis as well as non-communicable diseases like cancer, cardiovascular disease, diabetes, respiratory disease and mental disorders).

ii. SUDs also affect the emotional well-being of the family. Work and finances are important areas that substance use can impair.

iii. SUDs are not recognised early and it is often 10 years or more between the onset of early problems due to substance use and help seeking for dependence.

iv. The treatment gap for SUDs is huge and 76-85% [3] of persons have not received any care and treatment.

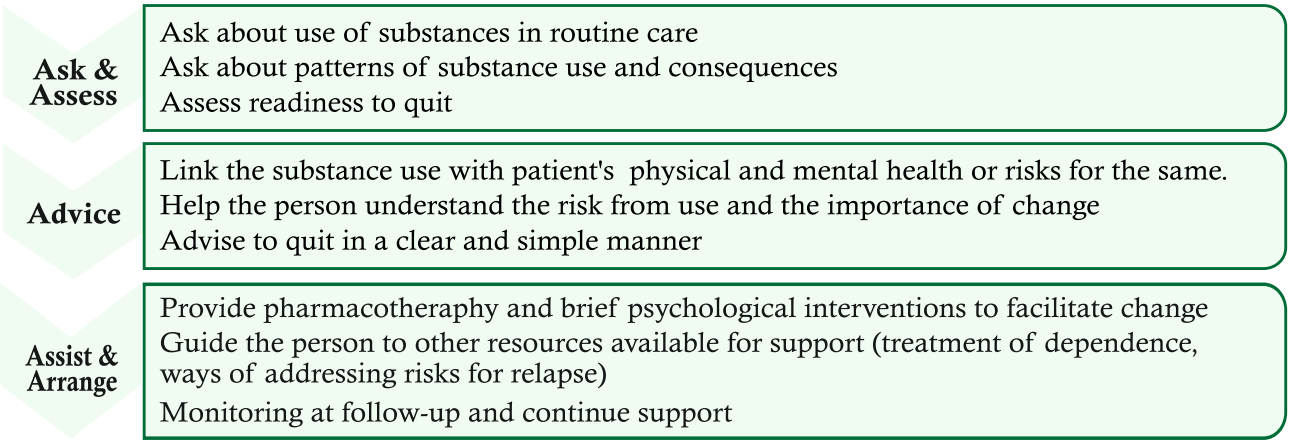
v. For every dependent user, there are at least four or more persons likely to have a problem from their use of substances. This non-dependent problem user group needs intervention to prevent progression to dependent use.

The World Health Organization recommends that physicians in primary care manage a range of problems related to the use of substances from harmful use to dependence.

5. General principles of management of substance use disorders

The physician must know how to clinically assess the pattern of substance use, how it may have influenced the presenting problem, how to motivate the person to change the substance use behaviour and how to support the person in such change.

Figure 1. How the physician can help persons with substance use disorders



6. Assessment of substance use disorders

Assessments include

A. Clinical – History, Physical Examination and Mental Status Examination

B. Screening and Diagnostic Instruments

C. Investigations

Basic instructions

- Ask ALL patients routinely (BOTH MEN AND WOMEN as well as OLDER ADULTS) about substance use.
- Ask ALL pregnant women routinely about personal use of substances, partner use of substances and use by other family members
- When assessing children, ask the parents about their use of substances and use in other family members
- Ask older children about the use of substances in a confidential manner
- Enquire about ever use of the substance and current use of substance.
- These questions can be asked in the context of lifestyle factors as part of the personal history (diet, exercise, stress, use of substances) .

For a patient currently using any substance – Consider further assessment for pattern of use, including harmful use or dependence.

Box 1. Sample questions
Have you ever had a drink with alcohol anytime? Have you ever smoked cigarettes and bidis or chewed tobacco? Have you ever smoked ganja? Have you ever taken any tablets, injections or syrups to feel good or improve your mood when you are sad? Have you taken any medicines without a doctor's prescription to feel good or deal with stress? Have you ever sniffed paint, petrol or nail polish remover to feel good?

For a patient who has used substances in the past but is not currently using, ask –

- How long is it since you stopped using the substance?
- What made you stop?
- Reinforce him/her fully – "That is really great"
- Offer help in case of any problems in the future

Patterns of substance use

- Use/Occasional Use/Recreational Use
- Hazardous Use: A pattern of psychoactive substance use which places the user at a potential for harm
- Harmful Use
- Dependence

Defining harmful use and dependence

The International Classification of Diseases (ICD – 10)[4] defines two problematic patterns of substance use, namely harmful use and dependence.

Harmful use means a pattern of psychoactive substance use that is causing damage to health. The damage may be physical (as in cases of hepatitis from the self-administration of injected drugs) or mental (e.g. episodes of depressive disorder secondary to heavy consumption of alcohol)

Dependence is a cluster of physiological, behavioural, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours. A central characteristic of dependence syndrome is the strong desire to take psychoactive drugs, alcohol, or tobacco.

The Eleventh Classification of the ICD (ICD 11) [5,6] is based on a more public health approach and the major changes from ICD 10 are the following:

- An updated and expanded range of substance classes including:
  - Synthetic cannabinoids
  - Synthetic cathinones
  - Caffeine dependence as a separate entity
  - New category of dissociative drugs- phencyclidine and ketamine
  - Separate hallucinogenic group including MDMA
  - Other specified psychoactive substances (including betel nut and khat)
  - Disorders due to nonpsychoactive substances (antacids, vitamins, herbal remedies, laxatives)
- Greater specification of different harmful patterns of substance use, which may be continuous, episodic or recurrent. This also includes clinically significant harm to health (physical or mental) and harm to other people as well (including prenatal alcohol or drug exposure, or harm caused by the behaviour of a person under influence of substances).
- A new category to denote single episode of harmful use
- A category of hazardous use- a pattern that appreciably increases the risk of harmful physical or mental consequences to the user or to others to an extent that it warrants attention and advise from health professionals.
- Adding of behaviour addiction- gambling disorder under addictive disorders
- Simplification of diagnostic guidelines of substance dependence.

Box 2. Substance Dependence

ICD -10	ICD -11
A substance dependent person is one who meets 3 or more of the following together in the past 1 year: **Craving** – A strong desire or sense of compulsion to take the substance	A substance dependent person is one who meets 2 or more criteria together within one month or occurring repeatedly together within a 12 month period
Loss of control – Difficulties in controlling substance-taking behaviour in terms of its onset or termination	**Impaired control** over substance use often but not necessarily accompanied by an urge to use the substance or **craving**

Withdrawal – A physiological withdrawal state when substance use has ceased or been reduced **Tolerance** – Increased doses of the psychoactive substance are required in order to achieve effects originally produced by lower doses	Substance use taking **priority** over other interests interests or enjoyments, daily activities, responsibilities, health or personal care. Substance use often **continues despite the occurrence of problems**
Salience – Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects	**Physiological symptoms** as manifested by tolerance, withdrawal symptoms, and repeated use of the substance to prevent or alleviate withdrawal symptoms
Use despite harm - Persisting with substance use despite clear evidence of overtly harmful consequences	

A. Clinical assessment

History

1. Patient demographic details
   - ❑ Drug use history – Record individually for each substance. If using more than one substance, start with the earliest substance and then move on to the other substances
   - ❑ Age and circumstance of initiation– How did it start?, What were the first few experiences?
   - ❑ Progression from occasional to regular use- At what age did the substance use become regular?
   - ❑ Maintaining factors for substance use – What led to continuing to take substances?
   - ❑ Effects of intoxicated behaviour
   - ❑ Changes experienced in effect of substance over time (Tolerance)
   - ❑ Details of withdrawal symptoms (When first experienced? Severity and complicated withdrawals)
   - ❑ Presence of craving
   - ❑ Current (Past 1 month) pattern of consumption – Average use, Last use
   - ❑ Routes of drug use: If injecting drug use is present, sites, mode (IM or IV) and risks (re-using needles/syringes, sharing)
2. High risk behaviours (driving under influence, high risk sexual behaviour)
3. Risk of harm to self and others
4. Other behavioural addictions (gambling, excessive use of the internet)
5. Periods of abstinence from the substance
   - ❑ Number of abstinence attempts and reasons for the same
   - ❑ Any treatment sought and its nature and duration
   - ❑ Functioning during abstinence period
   - ❑ Any other substance use during abstinence from one substance
   - ❑ Reasons for relapse to substance use after abstinence
6. Complications associated with drug use
   - ❑ Physical
   - ❑ Psychological
   - ❑ Financial

- ❑ Occupational
- ❑ Family-related
- ❑ Social
- ❑ Legal

7. Reasons for seeking treatment
8. Past medical or psychiatric history, if any
9. Family history
10. Personal history
11. Pre-morbid Temperament that increases risk to substance use

Box 3. Assessment of temperament [7]

Externalizing disorders increase risk for SUDs Some features that are distinct in these conditions include: ● A desire for novelty or new experiences ● Easily getting bored ● Not being able to learn from mistakes ● Poor decision making and making risky choices ● Not being able to empathise with others ● Exaggerated response to stress Includes Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), Antisocial Personality Disorder	**Internalizing disorders increase risk factors for SUDs** Some features that are distinct in these conditions include being shy and inhibited, being moody and having interpersonal skills deficits. Includes anxiety and depressive disorders

Children and adolescents facing adversities (toxic environments) such as poverty, neglect, physical, sexual and emotional abuse, lack of parenting are also at higher risk to substance use.

Physical and mental state examination

The clinical history must be followed by a thorough physical and mental state examination[8].

Box 4. Physical and Mental Status Examination

Physical Examination In addition to a general physical examination, additional pointers for substance use include: ● General appearance (smell of alcohol, tobacco stains, injection marks) ● Evidence of withdrawal symptoms (eg: tachycardia, hypertension, tremors, dilated pupils)	**Mental State Examination** General appearance and behaviour, psychomotor activity, speech, thought, perception and higher mental functions **Presence of any underlying psychiatric disorder (Focus on Depression, Anxiety, Psychosis)** **Motivation to Quit substances** ● Acceptance of problems associated with drug use

● Evidence of physical complications related to substance use (eg: signs of liver cell failure, external injuries ● Evidence of psychological problems (e.g. slash marks or self-harm)	● Past attempts to quit use ● A strong desire to quit ● Taking responsibility rather than blaming external factors ● Seeking treatment of one's own will ● Complying with treatment and follow up

B. Screening instruments for SUDs

These are questionnaires that evaluate substance use and are validated in clinical populations. They provide cut-offs for problematic use of substances and enable busy clinicians to screen large numbers of individuals. These questionnaires can be self or clinician administered and typically only take a few minutes to complete.

Box 5. Commonly used screening questionnaires

Type of Drug	Screening questionnaire
All drugs	WHO-ASSIST (Alcohol, Smoking and Substance Involvement Screening Test), CRAFFT
Tobacco	Fagerstrom Test for Nicotine Dependence (FTND) (Smoking and Smokeless Versions)
Alcohol	Alcohol Use Disorders Identification Test (AUDIT) and its variations (AUDIT- C) CAGE FAST

ASSIST (alcohol, smoking and substance involvement screening test) [9]

This interview has questions applicable to tobacco products, alcoholic beverages, cannabis, cocaine, amphetamine type stimulants, inhalants, sedatives or sleeping pills, hallucinogens, opioids and other substances (non-medical use). In addition, there is an eighth question which asks about injecting drug use in the last 3 months. The questions are provided below, with an example of cannabis. The complete instrument can be accessed from http://www.who.int/management-of-substance-use/assist.

1. In your life, have you ever used cannabis (bhang, charas, ganja, etc.)?
   - ❑ No – 0
   - ❑ Yes – 3

2. In the past three months, how often have you used cannabis?
   - ❑ Never - 0
   - ❑ Once or twice - 2
   - ❑ Monthly - 3
   - ❑ Weekly - 4
   - ❑ Daily/ Almost daily – 6

3. During the past three months, how often have you had a strong desire or urge to use cannabis?
   - ❑ Never - 0
   - ❑ Once or twice - 3
   - ❑ Monthly - 4
   - ❑ Weekly - 5
   - ❑ Daily/ Almost daily – 6

4. During the past three months, how often has your use of cannabis led to health, social, legal or financial problems?
   - ❑ Never - 0
   - ❑ Once or twice - 4
   - ❑ Monthly - 5
   - ❑ Weekly - 6
   - ❑ Daily/ Almost daily – 7

5. During the past three months, how often have you failed to do what was normally expected of you because of your use of cannabis?
   - ❑ Never - 0
   - ❑ Once or twice - 5
   - ❑ Monthly - 6
   - ❑ Weekly - 7
   - ❑ Daily/ Almost daily – 8

6. Has a friend or relative or anyone else ever expressed concern about your use of cannabis?
   - ❑ No, Never – 0
   - ❑ Yes, but not in the past 3 months - 3
   - ❑ Yes, in the past 3 months – 6

7. Have you ever tried and failed to control, cut down or stop using cannabis?
   - ❑ No, Never – 0
   - ❑ Yes, but not in the past 3 months - 3
   - ❑ Yes, in the past 3 months – 6

Calculating specific substance involvement score

Add scores received for questions 2 through 7.
Scores: 0-3: mild use (Low risk), 4-26: moderate use (Moderate risk), > 26: severe use (High risk)

CRAFFT screening tool [10]

This screening tool also covers all substances. This interview has two sections Part A and Part B

Part A

During the past 12 months, did you

1. Drink any alcohol (more than a few sips)
2. Smoke any cannabis
3. Use anything else to get high (including illegal drugs, prescription drugs, drugs that are 'sniffed' or 'huffed'.

If the Individual answers NO to all 3 questions, the CAR question below alone needs to be asked. If the individual answers YES to any of the above, all 6 CRAFFT questions are asked.

1. C: Have you ever ridden in a Car driven by someone (including yourself) who was "high" or had been using alcohol or drugs?
2. R: Do you ever use alcohol or drugs to Relax, feel better about yourself, or fit in?
3. A: Do you ever use alcohol or drugs while you are by yourself, Alone?
4. F: Do you ever Forget things you did while using alcohol or drugs?
5. F: Do your Family members or Friends ever tell you that you should cut down on your drinking or drug use?
6. T: Have you ever gotten into Trouble while you were using alcohol or drugs?

Interpretation: Two or more "yes" answers indicate a potential substance use problem and the need for further assessment

Score >2 optimally substance related disorder with high sensitivity, specificity, positive and negative predictive value (across age, gender and race)

C. Investigations

These are necessary to:

- Rule out medical illnesses
- Assess drug related harm
- Provide a personalized feedback to the person about risks from substance use.
- Verify the presence of ongoing substance use

Specific investigations useful in SUDs

- Blood investigations – Liver function tests, Renal function tests, Complete Hemogram, Fasting sugars and Fasting lipids
- Direct Markers of recent consumption
  - Ethyl glucuronide for alcohol
  - Breath Carbon monoxide (CO) for tobacco smoking and urinary cotinine for tobacco
  - Positive drug screen (detailed below)
- HIV, HbSAg, HCV, VDRL – For further assessment in the presence of high risk sexual behaviours
- Chest X Ray, ECG (For evaluation for tuberculosis and other lung conditions, cardiac evaluation)
- CT – Brain (If head injury is suspected or seizures need evaluation)

Drug screen or toxicology

This is a useful confirmatory test for recent drug use and can corroborate clinical history. It is also useful in patients who present in altered sensorium/overdose, or provide an unclear or unreliable history. It is also useful in monitoring treatment adherence and drug use status at follow-up.

The sample most commonly used for drug toxicology is urine. Blood, saliva and hair may also be used.

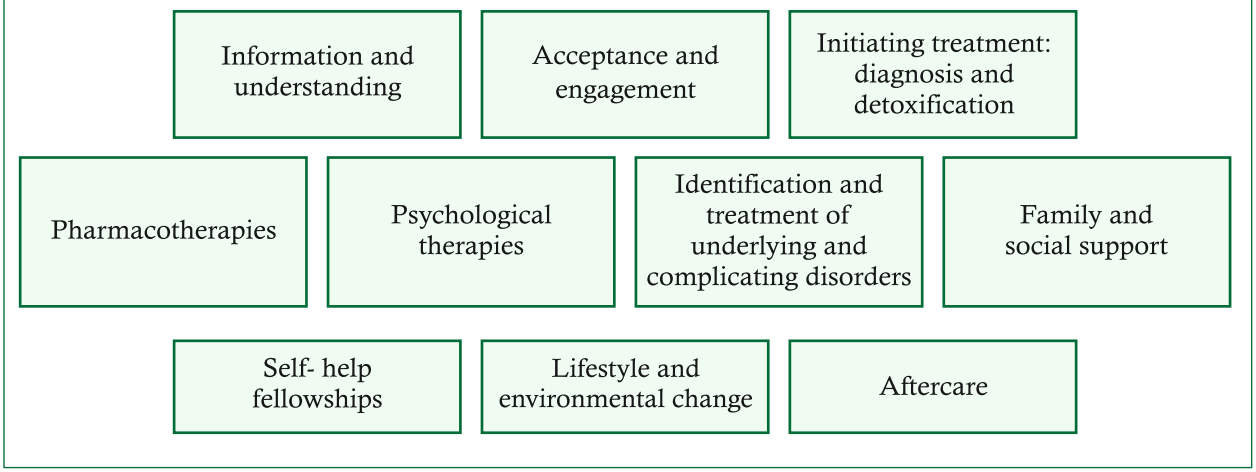
Cassette tests are available for detection of recent use of cannabis, opioids, cocaine, amphetamines and benzodiazepines. Specialised laboratories provide quantification of drug levels.

Table 3. Common substances of abuse and their duration of detection in urine samples	
Substance	**Urine**
Positive test for ethanol (Alcohol)	10-12 hours
Ethyl Glucuronide	5 days
Cannabis (Casual Use)	1- 3 days
Cannabis (Chronic Use)	Upto 30 days
Benzodiazepines (Therapeutic use)	3 days
Benzodiazepines (Chronic use)	-6 weeks
Morphine	2 days
Codeine	2 -3 days
Inhalants	Few hours
Cocaine (Benzoylecgonine)	2-5 days
Amphetamines	1- 3 days

7. Management of substance use disorders

The effective management of SUDs requires a comprehensive approach using medical, psychological and socio-cultural treatment modalities. The key components of treatment for all SUDs are outlined in figure[11-14].

Figure 2. Key Components of Management of Substance Use Disorders



A. Medical management of substance use disorders

Medical management includes short and long-term management:

Short Term Management

- Substance use emergencies – Intoxication, overdose
- Substance use withdrawal

Long term management

Medications to prevent relapse which include

- Medications that reduce craving (anti-craving agents)
- Medications that pharmacologically act like the primary substance being used (agonists)
- Medications that can cause unpleasant responses when the primary substance is used again (antagonists or deterrents)

Based on the aim of long-term management, approaches include

- Abstinence based approaches which aim at complete cessation of substance use. For eg: Disulfiram in individuals with alcohol use disorders, Naltrexone in individuals with opioid use disorders.
- Harm reduction based approaches which aim at reducing the harms (physical, psychological and social) from ongoing substance use. For eg. Opioid Substitution Therapy in individuals with injecting opioid use to reduce transmission of blood borne viruses.

B. Psychosocial management of substance use disorders

Psychological interventions are extremely effective for treatment of substance use disorder and in many cases form the first line of management.

This section provides the general principles and techniques of psychosocial interventions. Brief interventions can be effectively carried out by physicians. Comprehensive psychosocial interventions although best carried out by a multi-disciplinary team which could involve counsellors, nurses, social workers and psychologists can also be effectively delivered by a trained physician.

Table 4. Common psychosocial interventions in treatment of SUDs

Intervention	Approach used	Profile of clients
Brief Intervention *	FRAMES	Harmful use
Motivation Enhancement Therapy *	Motivational Interviewing	All types of substance use
Relapse prevention *	Cognitive Behav	All types of substance use
	Social Networks/Social support/Peer support	Treatment non seekers
Community Reinforcement	Behavioural Interventions	Adolescent solvent, cannabis users
Multi systemic therapy	Social/ cognitive	Adolescent users
Matrix Model	Eclectic, combining cognitive behavioural, social learning and social networking	Alcohol, Opiate, and stimulant users
Self- help approach	Social Networks/Social support/Peer support	Alcohol, Opiate users, Gambling

(Adapted from Psychosocial Interventions for Persons with Substance Use: Theory and practice) [10]
*Described in detail in the next section.

Anumber of these psychosocial interventions require a great deal of training and practice to be able to achieve mastery. Further information on training and resources can be obtained in the chapter on Convergence.

The most practical psycho-social interventions that are discussed in more detail and that physicians and other health professionals can use include:

- Brief intervention: FRAMES
- Motivational Interviewing
- Motivation Enhancement Therapy
- Relapse Prevention

Brief Interventions

These can range from 5 minutes of brief advice to 15-30 minutes of brief counselling [10,11].

FRAMES

FRAMES is a typical example of a brief intervention for alcohol use but can also be applied to other drug use.

- **Feedback of personal risk**

  After clinical assessment and investigations, clearly inform the patient about his pattern of substance use and existing or potential harmful effects. For eg:

  "Your drinking is going to worsen your stomach pain"

  "I am concerned that your use of tramadol is causing the fits"

- **Responsibility**

  Inform your patient that decision about making a change in substance use is their responsibility and choice solely. For eg:

  "Now it is up to you to take a decision on using brown sugar"

- **Advice**

  As a doctor, give clear advice to reduce drinking and other drug use.

  Ask your patient to make a balance sheet (Box 6). Ask about the advantages and disadvantages of using the substance. Make the patient see that the disadvantages of using are much more than the advantages of using and the advantages of stopping are greater than the disadvantages of stopping. Clarify any worries or doubts the patient may have about stopping.

Box 6. Balance sheet of pros and cons of substance use

	Advantages	Disadvantages
If I continue drinking/using the drug	*I can forget worries* *I can escape responsibilities*	I am having more family fights I am having health problems I am spending much more Everyone is looking down upon me My work is suffering I had an accident because of this My health is going to get worse if I continue

If I reduce drinking/using the drug	My health will improve I will save money I will not injure or harm myself	*I will find it difficult to pass time* *I will miss the pleasure of using* *I will lose friends*
If I stop drinking/using the drug	I can be like others I can get more respect My health will improve I will make more friends I will save money My family will be happy I will be able to work better	*I may lose my friends* *I am afraid of withdrawal symptoms*

- **Menu of alternate choices**
  - Recognising and avoiding trigger situations (hunger, anger, tiredness, loneliness, peer pressure to use, seeing substances/users, being in situations previously associated with use)
  - Planning ahead to limit drinking or use of substance
  - Learning to cope with everyday problems that encourage drinking or use of substance
  - Finding alternate sources of enjoyment
  - Dealing with stress, anxiety and mood symptoms

- **Express empathy**

  Do not belittle or criticize. Do not refer to the person as an addict/alcoholic directly or to family members/while discussing with others. Acknowledge that substance dependence is a problem that can be difficult to overcome, but can be with some effort and help.

- **Self-efficacy**

  Encourage patient to be optimistic and to bring about the changes in drinking/substance use behaviour

Techniques to improve motivation

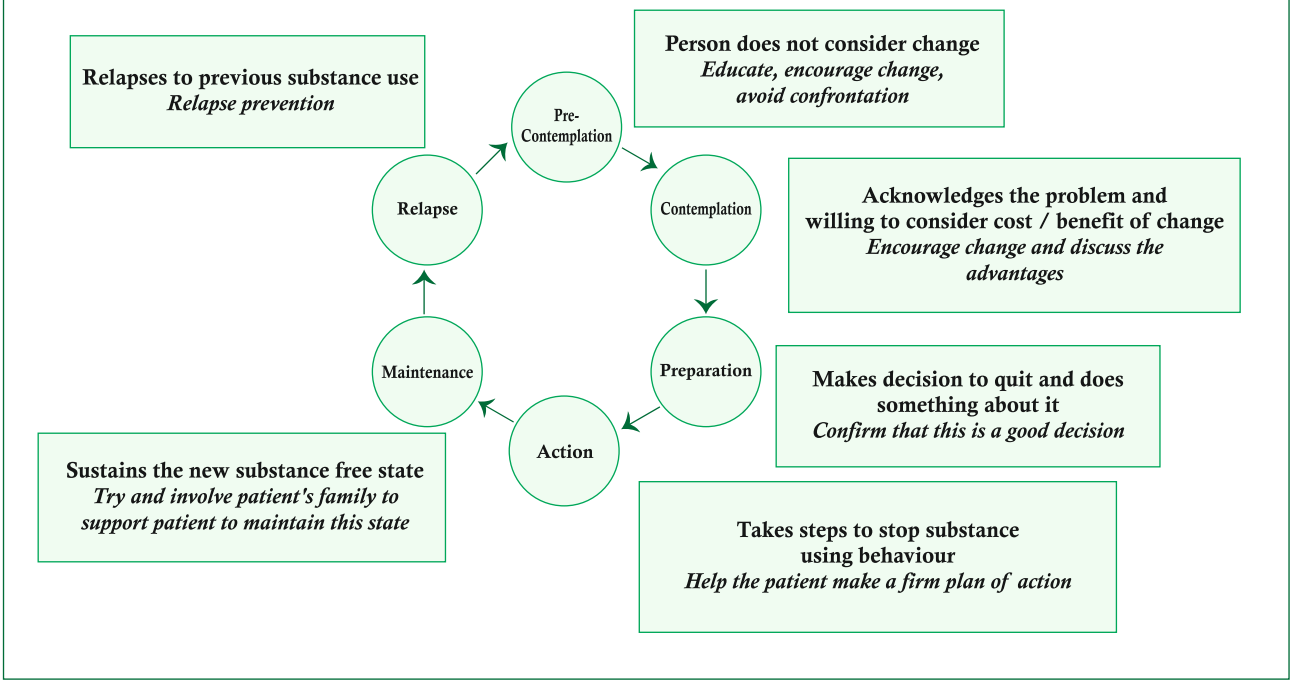
Different patients may be in different stages of readiness to change.

Motivation enhancement therapy (MET)[15]

It is an approach to help the patient towards considering change from him or herself, rather than just solely because of the pressure from others.

MET utilizes as its background the Stages of Change Model of Prochaska and DiClemente. The stages of change and the professional's interventions at each stage are summarized in Figure3. The physician's response during each stage is mentioned in italics.

Figure 3. Stages of Readiness to Change Substance Use Behaviour



Helpful approaches to the person with substance use disorders

Many persons with substance use disorders are hesitant to talk about their substance use because of fear, shame or disapproval. The motivational style of interviewing is a helpful approach in that it can help the patient discuss the substance use and related issues more readily and bring about a decision to change.

Motivational interviewing

This is a style of counselling that helps the patient or client make a decision to change behaviour (in this context the use of substances).
Techniques include:

- **Open ended questions**

- **Affirmation**
  Statements that recognize the patient's strength and acknowledges behaviors that lead to positive change.
  "You handled yourself really well in that situation."

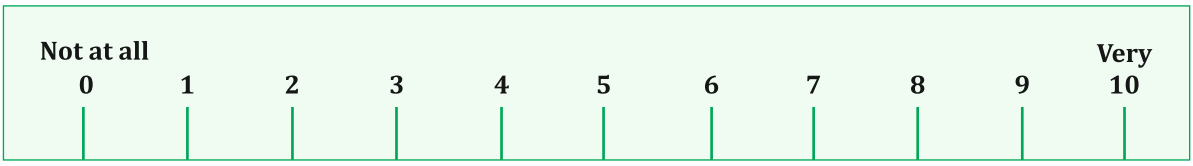
- **Reflective Listening** – Listening to thoughts, feelings and meanings and reflects them back
  "You seem to have been really angry with your father not trusting you."

- **Summarising**
  Special application of reflective listening. Helps to ensure that communication is clear between client and therapist

  "You are aware of the harm caused by using substances but the fear of withdrawals has made you use the substance again"

- Eliciting change talk
  " You have a good understanding of why you should quit and your coming here is a good sign."

Fig 4. Readiness Ruler



Assessing readiness to change

A simple way to assess readiness to change and to motivate is to ask the following questions:

1. On a scale of 0 to 10, how important do you feel it is for you to change your drug use?
2. On a scale of 0 to 10, how confident do you feel that you can change your drug use?

   If the person says 5, you may ask Why do you say 5 and not a 3?; similarly ask what could be done to make it a 7? This can move the person in the direction for change
3. Ask about extremes: "What is the worst thing that would happen if you did change this behavior?" "What is the best thing that could happen if you did change?

   This can help to make the patient think about the reasons for change
4. Looking forward- looking backward: Ask about life 1-2 years from now; life as it was before drug use started. This can help the patient understand the impact of drug use and the need for change

Counselling adolescents and young adults

A friendly approach and creating an atmosphere of trust is more likely to build a rapport with the substance users, particularly with younger adults. Some helpful strategies include:

- Avoid giving advice too early
- Try finding common ground and reframing the problem – Both to the patient and to his family.
- Common concerns may include – Poor academic performance, Difficulty in focusing, Getting distracted easily, Unable to finish things on time, Difficulties in relationships with family or friends, anxiety in facing social situations.
- These are often more agreeable for the patient to discuss than substance use.
- Often the patient's problems are due to underlying temperament. This should be assessed and treated by the clinician to make interventions more effective.

Relapse prevention

It is a set of strategies that aim to identify causes for relapse and manage them.

The basic strategies involved include:

Identifying and handling high risk situations – Common high risk situations include loneliness, free time, pressure from friends to use substances, positive or negative emotional states, social gatherings, job stress or fatigue.

Box 7. Prevention Strategies

Managing high risk situations
Managing craving
Learning drink/drug refusal skills
Dealing with faulty cognitions
Managing negative moods
Addressing self-harm
Anger management
Managing temperamental issues
Having a balanced lifestyle

Handling craving – Craving is often described as a wave and the term 'urge surfing' has often been used to the methods of handling craving. Some basic strategies that can be advised for all substances include the 5D's – Delay, Distract, Drink water, Deep breathing and Discuss. Common triggers of craving are hunger, anger, loneliness and tiredness (HALT) and ways of dealing with these triggers may be discussed.

Drink refusal skills and assertiveness– Relapse is often in the context of peer pressure. The client should be aware of pressure tactics from peers and how to handle these situations. It is always better to say "NO" clearly rather than saying "maybe later" or "we shall see". Eg: "No thanks, I have stopped using."

Role play is a good method to help patients learn drink and drug refusal skills.

Dealing with faulty cognitions– This can include cognitions relating to overconfidence or helplessness. It is important to help the patient recognise these thoughts and how they may lead to relapse. A good way to record these thoughts is by maintaining a diary of thoughts.

Eg: "I can stay away from stimulants. Nothing can tempt me." The consequence is - going to parties where drugs may be available, telling myself "I will go, but I'll not use."

"After all these months of abstinence, I used the drug again, so there's no use. I cannot recover again"

"I am a useless person because of my addiction"

Handling negative mood states – Since negative mood states are frequently associated with relapse, it is important to handle them appropriately. Some strategies to manage the same are listed below:

- Being aware of self-defeating thoughts and realizing the adverse consequences of these negative thoughts.
- Accepting yourself just like you are, with strengths as well as limitations.

Mental disorders such as depression and anxiety, as well as other disorders may make the person turn to alcohol and other drugs. Identification and management of such disorders would help in reducing problems from substance use disorders as well.

Managing self-harm – It is important to assess the intention and severity of any attempt of self-harm. Self-harm most often represents a solution for the client in the absence of other options. In any case, referral to specialist mental health services is mandatory.

Managing anger- Anger is one of the important triggers for relapse. Simple anger management strategies include understanding situations that lead to anger, avoiding them, breathing slowly, relaxing tensed muscles, counting backwards, leaving the tense situation, listening to music.

Addressing temperamental issues- Ways of handling impulsivity, risk taking behaviour, feeling good by engaging in safer activities (sports, music, spirituality etc), alternative ways of handling anxiety and stress are important measures to reduce the risk of relapse.

Having a balanced lifestyle – This includes having healthy supporting relationships, eating a balanced diet, regular exercise and sleep, pursuing hobbies and interests, managing time and money.

Addressing co-morbidities

Many patients who use substances may have physical or mental health co-morbidities. These may be risk factors for re-use and relapse to drugs. Appropriate management of such conditions is very important to prevent such relapses.

Engaging family support

Family members often accompany patients for their medical visits. History can be collected from family members to get a perspective about substance use, although they may not be able to provide details of quantity and frequency of use. Sometimes, families maintain substance use disorders because of their critical attitudes towards the substance user. Many of the family's negative responses are due to their lack of understanding about substance use disorders. Educating the families, listening to them and counselling them to change their negative responses and support to the patient in recovering from addiction are important tasks that health providers can effectively carry out.

Self- help groups

Self- help groups, where persons recovering from substance dependence offer mutual support to recover, exist in many cities. It is useful for the clinical facility to put up a list and inform patients where facilities like the Alcoholics Anonymous, Narcotics Anonymous etc are available. Such support groups are also available for families.

Follow-up

Follow-up is a critical part in substance use disorders. In persons who are using substances in a harmful manner, or have an underlying health condition, regular follow-up to monitor both the health condition and the use of substances ensures better outcome. Retaining the patient in treatment has been shown to improve longer-term outcome.

Substance dependence is a potentially chronic, relapsing condition much like diabetes or heart disease. Complying with treatment, following relapse prevention strategies and retaining in treatment improves outcome. For patients who drop out of treatment, having a reminder in the form of text messaging or phone calls are simple but effective strategies to get persons back into treatment and improve their commitment to change.

Patients must be warned about the risk of relapse and in such cases, must be encouraged to seek treatment at the earliest. It is important not to blame the patient for the relapse, but to turn it into a learning experience from which the patient learns to avoid future relapses.

Referral

Patients with very severe substance use disorders, past unsuccessful attempts at quitting, complicated physical and psychiatric co-morbidities, those requiring intensive psychosocial interventions may require referral to a specialised treatment centre or for psychiatric care.

8. Models of intervention

Box 8. The 5- As of Brief Intervention
Ask all patients about the use of substances (Ever and Present) Assess the severity of problems and their readiness to quit Advise about the importance of quitting Assist them in their quitting attempt through brief counselling and medication if needed Arrange for a referral to a specialised centre if there are complications or if quit attempts fail despite help

The 5-A's model is a useful brief intervention that is possible in all clinical settings.

Screening, Brief intervention and referral to treatment

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs.
It consists of:

Screening - a healthcare professional assesses a patient for risky substance use behaviours using standardized screening tools. Screening can occur in any healthcare setting

Brief Intervention - a healthcare professional engages a patient showing risky substance use behaviours in a short conversation, providing feedback and advice

Referral to Treatment - a healthcare professional provides a referral to brief therapy or additional treatment to patients who screen in need of additional services

9. Preventing substance use disorders

The physician can deliver comprehensive prevention program at the community level[10]:

- **Primordial prevention:** Aims at preventing the risk factors. It identifies at risk individuals, e.g., hyperactivity, conduct traits, delinquent behaviour, abuse in children and manage the same. Awareness and screening programs can be held at school or in community.
- **Primary prevention:** Aims at measures prior to developing substance dependence, involves education about drug use, adoption of healthy life style, improving emotional wellbeing, and quality of life through educational and awareness measures in community and schools.
- **Secondary prevention:** Early diagnosis and management of dependence and complications. It also includes harm reduction approaches.
- **Tertiary Prevention:** Long term follow-up, family involvement, collaboration with various other service organizations (example- schools, NGOs, District Mental Health Programs)

Standard guidelines for management for specific substance use disorders

The Ministry of Health and Family Welfare, Government of India has already developed National Treatment Guidelines for Tobacco and Alcohol Dependence. These guidelines therefore focus on other substance use disorders as well as behavioural addiction.

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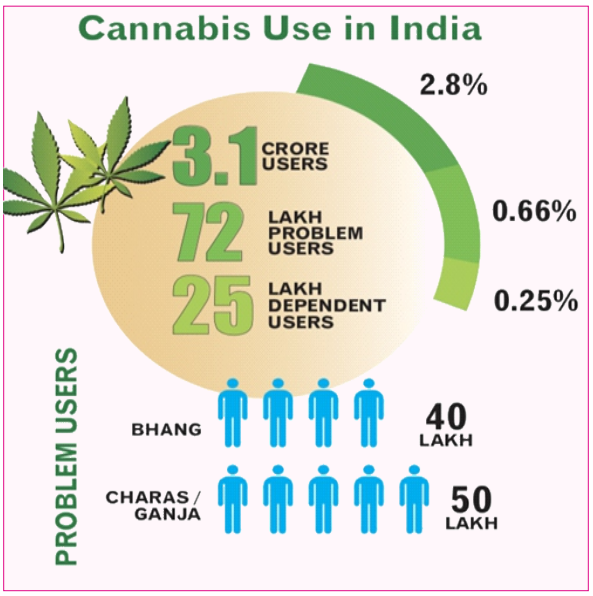
Cannabis Use Disorders

Introduction

- Cannabis sativa, or the Indian hemp plant, is the source of a number of products known collectively as cannabis.
- The term cannabis refers to both the plant Cannabis and its psychoactive preparations.
- Three preparations of cannabis most commonly consumed in India are: Bhang- cut and dried large leaves and stems of the plant, typically eaten after mixing in food and beverages; Ganja- buds and flowering tops of female plant; and Charas (Hashish)- resin that coats the young leaves and flowering tops of plant. Ganja and Charas are typically smoked.
- The term cannabinoids refers to the various compounds obtained from the cannabis plant that have psychoactive properties. The term 'synthetic cannabinoids' refers to various compounds which are synthesized in laboratories (not obtained from the cannabis plant) with similar properties as the natural cannabinoids.
- Delta-9-tetrahydrocannabinol (delta-9 THC, or simply THC), the primary psychoactive compound in cannabis is a highly lipophilic molecule that readily crosses the blood-brain barrier and acts through CB1 cannabinoid receptor which mediates its psychological and behavioural effects.[1]
- Concentration of THC range from 0.5% to 3% in Bhang, 3-5% in Ganja and 5-8% in Charas.
- Bhang is legally available in many states but Ganja and Charas are illegal as per the international drug conventions as well as Indian law (the NDPS Act, 1985).
- About 2.8% of Indians aged 10-75 years are current users of any cannabis product. 0.66% of Indians need help with their cannabis use (use cannabis in a harmful or dependent pattern), and 0.25% use cannabis in a dependent pattern.
- Prevalence of bhang use (2%) is higher than that of ganja/charas (1.2%). One in sixteen users of bhang are dependent on cannabis, as compared to one in seven users of ganja/charas.[2]



Source: National Survey on Extent and Pattern of Substance Use in India (2019). Magnitude of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India. Ambekar et al [2]

Scope of the chapter

By the end of this chapter, the physician should be able to:

- Provide awareness about the harms from cannabis use and various treatment options that are available.
- Identify at risk or vulnerable individuals.
- Screen for cannabis use disorders, carry out a basic assessment and brief psychosocial intervention
- Identify and provide initial treatment of cannabis-induced psychiatric complications including psychosis.
- Refer appropriate cases to specialised centres and provide follow up services in consultation with psychiatrists.
- Collaborate with various stakeholders like schools, hospitals, workers, groups, relevant government agencies, non-governmental organizations and community volunteers to provide awareness of the harms from cannabis use.

Clinical presentations

Cannabis intoxication: temporal relation with cannabis intake and symptoms such as dry mouth, conjunctival injection (redness of eyes), increased appetite, tachycardia, euphoria, anxiety, perceptual disturbances.

Cannabis withdrawal syndrome: irritability, anxiety, anger, depressed or labile mood, restlessness, insomnia, reduced appetite, after cessation of heavy and prolonged cannabis use.

Cannabis harmful use: persistent nonspecific anxiety symptoms, apprehensions and vague fear, lasting from weeks to months, or any other physical or mental harm due to cannabis use, following even single use or regular use, but not amounting to dependence. In severe cases, psychosis or mania may be the presenting feature, but is usually found in those with cannabis dependence syndrome rather than only harmful use of cannabis.

Cannabis dependence: often brought by family members after they observe significant change in patient's behaviour along with decline in academic or socioeconomic functioning. (See below under 'Pointers towards problematic cannabis use'). ICD-10 diagnosis is given below.[1,3]

Cannabis-induced psychiatric disorders: various psychiatric syndromes (anxiety, depression, psychosis) arising in the context of recent heavy cannabis use but not limited exclusively to the period of cannabis intoxication.

How to diagnose

- ICD-10 criteria (if 3 or more are present over the past 12 months)[4]:
- Pointers towards problematic cannabis use:
  - Detection of cannabis preparations in personal possession or in the household
  - Changes in appearance (red eyes)
  - Changes in eating pattern (increased appetite and craving for high carbohydrate food)
  - Loss of interest in hobbies, general aimlessness and lack of effort to achieve a goal

- Unusual smell in breath
- Unusual secretiveness in acts and possessions
- Unpredictable mood swings[1-3]

- Screening tools like CRAFFT[5] and ASSIST[6, 7] help in detecting substance use (including cannabis) and related problems in primary and general medical care settings.

Special populations

Children and adolescents

- **Presentation:** recent deterioration in school grades, behavioural changes- change of friends, lack of interaction with family, increasing isolation, changes in appearance (red eyes), changes in eating pattern, mood swings, loss of interest in hobbies, unusual secretiveness in acts and possessions, impairment in attention or memory, delinquent behaviour, increased need for money but on what spent not apparent, stealing money, problems with law (rash driving). Early identification of high risk and affected individuals through screening is essential.

- **Principles of engaging an adolescent:** Reassure about confidentiality, be non-judgmental, screen for mental health problems, while discussing whole life rather than only substance.[1]

Specific investigations

Laboratory tests can be done for detection of cannabis use. Screening kits are available for the purpose that would suggest recent use of cannabis. Clinical correlation is required because concomitant use of certain medications may lead to false positivity results.

Pharmacotherapy

Cannabis intoxication: Symptoms are mostly transient, mild and self-limiting. Reassurance and supportive care are usually sufficient. The patient should be placed in a calm, cool, quiet atmosphere with optimal lighting (not dark, not too bright). Pharmacological treatment is necessary in patients with severe, distressing anxiety symptoms or unmanageable, disruptive psychotic symptoms. Benzodiazepine (preferably short acting) and low-dose antipsychotics (preferably second generation like quetiapine) are drugs of choice. Antipsychotics should be reserved for those with psychotic symptoms (delusions, hallucinations) Propranolol 40-80 mg/day for 1-2 days might be considered for symptom relief especially in case of severe anxiety with autonomic features (tachycardia, sweating, dilated pupils).

Cannabis withdrawal syndrome: Symptoms are mostly transient, mild, self-limiting and thus reassurance along with supportive care are usually sufficient. Pharmacological treatment is necessary in patients with severe and distressing withdrawal symptoms. Benzodiazepines (preferably long acting, e.g., chlordiazepoxide, diazepam) are the suggested treatment options, with the longest clinical experience. Non-benzodiazepine hypnotic drugs (e.g., zolpidem 5-10 mg at night) may be added for insomnia. Baclofen 40mg/day might be considered as alternative second-line treatment. Duration of treatment is around 7 days.

Cannabis dependence: No medication has been approved for this condition by any regulatory authority. Therefore all pharmacological treatments must be considered empirical at this stage, with no particular

recommendation for any specific medications. Consider as potential options: Buspirone (up to 60 mg/day), Baclofen (40-60 mg/day), Fluoxetine (20-40 mg/day) or N-acetyl-cysteine (1200 mg/day in 2-3 divided doses). Usual duration of treatment is 3-12 months. Pharmacological treatment should ideally be used in combination with psychosocial interventions.[1,9]

Psychosocial counselling

It is the first line of management for cannabis dependence. Motivational enhancement therapy and cognitive behaviour therapy are the most commonly used approaches (Discussed in detail in Chapter 1). Contingency management (CM) is often used in conjunction with CBT/MET. It relies on delivering reinforcing and punishing consequences in order to achieve therapeutic goal. It aims at reinforcing abstinence, by rewarding abstinent facilitating behaviours such as avoiding drug using peers. It is also used to facilitate treatment retention, adherence to medications or therapy sessions.[1]

Inpatient management

- Severe anxiety or paranoia with cannabis intoxication
- Cannabis induced psychosis that is unmanageable in outpatient setting
- Comorbid psychiatric disorders which merits admission (risk of harm to self / others)
- Comorbid substance use disorder with indication for inpatient treatment

When to refer to a specialist[8]

- Severe dependence or high risk of harm to self or others (based on assessments)
- Cannabis-induced psychosis
- Comorbid psychiatric diagnosis, severe enough to warrant inpatient admission
- Multiple past treatment failures
- Special population: Adolescents, elderly or pregnant females
- Comorbid serious medical conditions (e.g. HIV, HCV etc)
- Highly disturbed family environment (requiring intensive psychotherapies)[1]

Prevention

The physician can deliver comprehensive prevention programs at community level[10]:

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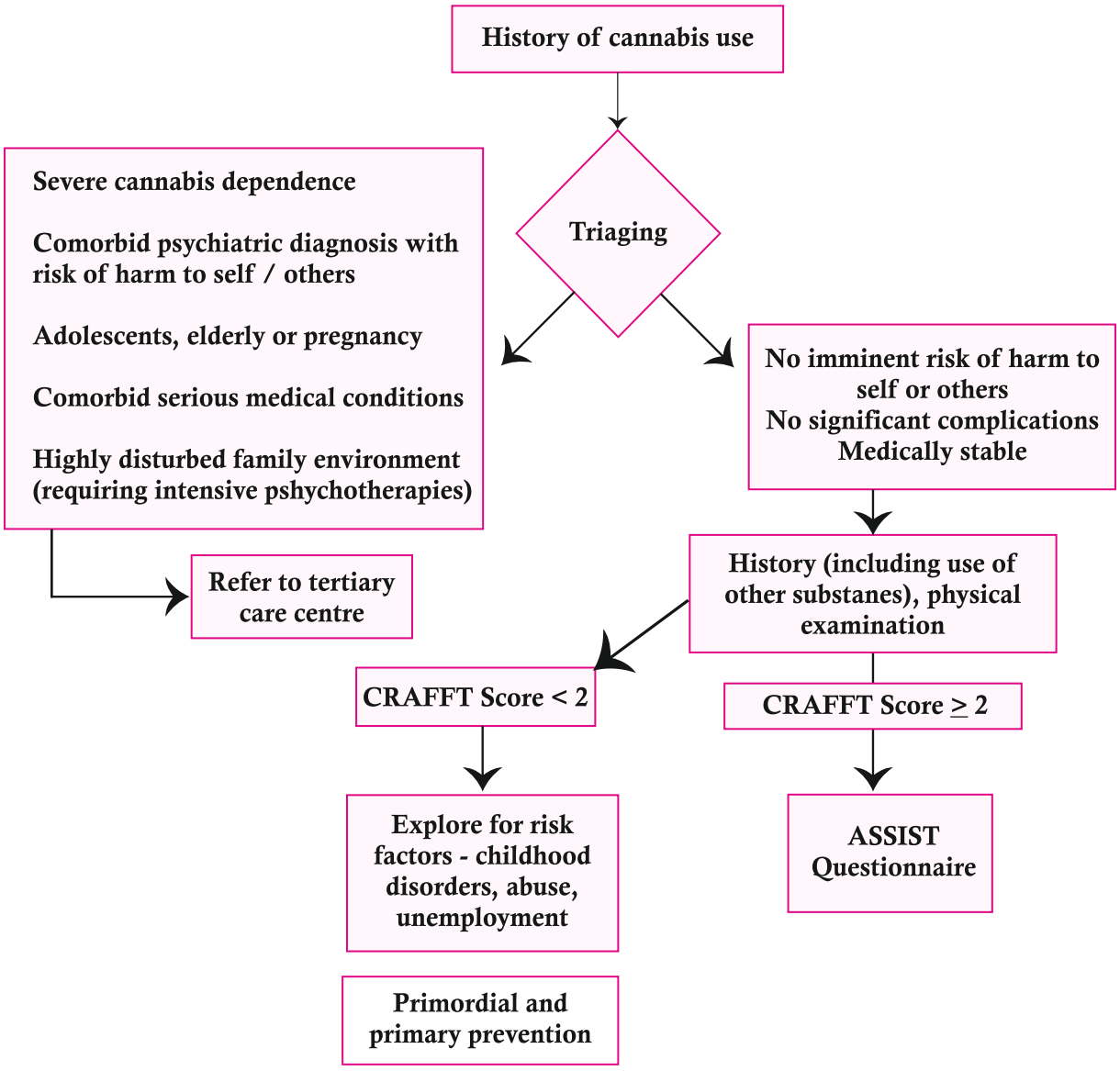
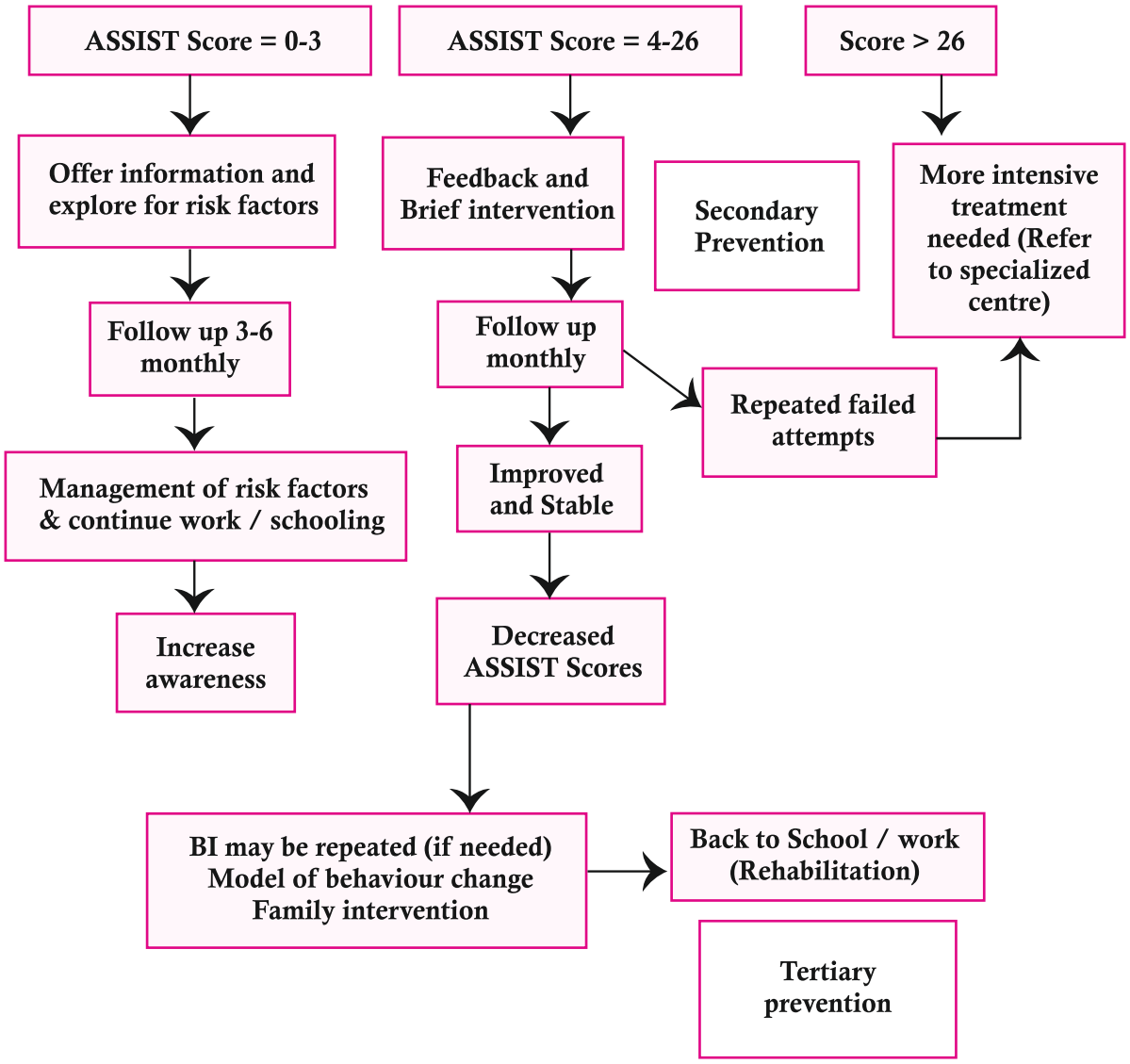
Flowchart for management of Cannabis use disorders



Flowchart for management of Cannabis use disorders



CHAPTER - 3

Opioid Use Disorders

Introduction

- The term opioid refers to all substances, natural or synthetic, which bind with the opioid receptors in the brain and clinically produce opium-like effects.
- There are internal or endogenous opioids, which are produced inside the body, and external opioids include natural opium alkaloids, semi-synthetic and synthetic compounds having morphine like activity.
- The exogenous opioids have been classified as follows:

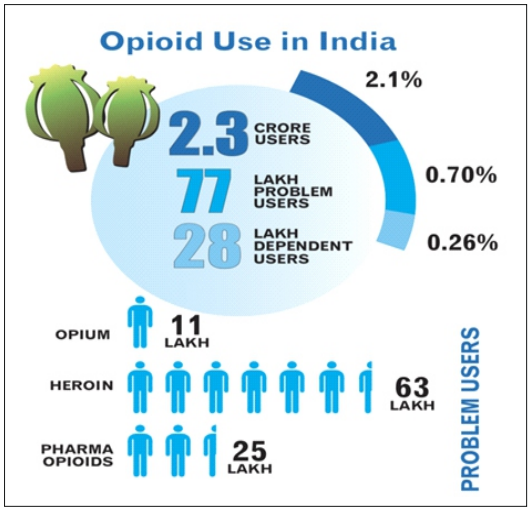
  According to the source-

  - Natural opium alkaloids (produced by the opium bearing poppy plant Papaver somniferum - morphine, codeine.
  - Semisynthetic- diacetylmorphine (heroin), pholcodeine.
  - Synthetic- pethidine, fentanyl, methadone, dextropropoxyphene, tramadol and tapentadol

  According to the action on the opioid receptor-

  - Opioid agonists- bind to opioid receptors and mimic the effect of morphine, e.g. heroin, methadone.
  - Opioid antagonists- binds to opioid receptors, inhibit (not mimic) the effect of morphine as they lack intrinsic activity, e.g. naloxone, naltrexone.
  - Partial agonists- have less than the maximal effect obtained with morphine, even at full saturation of the receptor, e.g. buprenorphine, pentazocine. [1]

- In India, the prevalence of current use of any opioid is around 2% out of which prevalence of heroin, pharmaceutical opioids and opium is 1.14%, 0.96% and 0.52% respectively.[2]
- Most natural and synthetic opioids come under the purview of the NDPS and therefore their production, sale and distribution are subject to the regulations of the act. Citing the medical importance of a number of compounds, a 2014 amendment to the NDPS designated certain opioid compounds as "Essential Narcotic Drugs". These include Methadone, Fentanyl, Morphine, Codeine, Hydrocodone and Oxycodone.



Source: National Survey on Extent and Pattern of Substance Use in India (2019). Magnitude of Substance Use in India. New Delhi: Ministry of Social Justice and Empowerment, Government of India. Ambekar et al [1]

Scope of the chapter

By the end of this chapter, the physician should be able to:

- Provide awareness about various products which can be abused as opioids, their deleterious effects, identifiers of opioid use and available treatment options
- Identify at risk or vulnerable individuals
- Screen the opioid users, provide basic treatment and brief psychosocial intervention
- Refer appropriate cases to specialist centres and provide follow up services in consultation with psychiatrists
- Community involvement by collaborating with various stakeholders- schools, employers, government agencies, non-governmental organizations and community volunteers

Clinical presentation

Acute behavioural effects of opioids : Drowsiness, decreased awareness, slow speech, constricted pupils.

Opioid overdose: Unconsciousness, pinpoint pupils, respiratory rate < 6 breaths/ minute.

Opioid withdrawal features: Dilated pupils, anxiety, nausea/vomiting/diarrhoea, abdominal cramps, muscle aches and pains, headaches, running nose and eyes, yawning, hair standing up on arms, increased heart rate and blood pressure.

Opioid harmful use: Evidence of physical impairment (Hepatitis C, fracture/head injury in a road traffic accident while driving under influence of opioids, tramadol intoxication seizures) or psychological impairment (depressive episode while taking opioids regularly) in the patient. Diagnosed if patient does not fulfil the opioid dependence criteria.

Opioid dependence: Patient may reveal symptoms fulfilling ICD-10 criteria (details in 'HOW TO DIAGNOSE OPIOID DEPENDENCE' section below). If not forthcoming, pointers towards this diagnosis are: recurrent requests for prescribing particular psychoactive medications (such as tramadol), analgesics, frequently missing/forging the prescriptions, doctor shopping, presentation with features reflecting acute behavioral effects or withdrawal, recent injection marks, skin infections, blood borne infections (Hepatitis C, HIV).[3]

How to diagnose

- Screening tools like ASSIST (Alcohol, Smoking and Substance Involvement Screening Test)[5] and CRAFFT[6]
- Diagnosis is made using ICD-10 criteria (if 3 or more are present):[4]
- Signs suggestive of chronic drug use: Poor self -care, poor dentition, parasitic skin infections (lice, scabies) and malnutrition. New and old marks of injection on arms or legs. Presence of HIV/AIDS, Hepatitis B, Hepatitis C, tuberculosis and skin infections at injection sites [1], while not in themselves signs of chronic drug use, should alert the physician to the need of exploring such possibility. [1]

Special populations

Children and adolescents

- Clarify the confidential nature of the health care discussion. Ask what else is going on in the adolescent's life? Identify important issues in the following areas: Home, Education & Employment, Eating, Activities, Drugs, Sexuality, Safety, and Suicide/Depression.
- Assess for other priority mental health conditions. Provide the adolescent and their parents with information on the effects of opioids on health and social functioning.
- Encourage a change in the adolescent's environment and activities, rather than focusing on the adolescent's behaviour as being a "problem." Allow time for discussion.
- Encourage participation in school, work and group activities that occupy the adolescent's time and facilitate building of skills and contribution to their communities. [1]

Women of child bearing age, pregnant and breastfeeding mothers

- Inquire about the woman's menstrual cycle. Substance use can interfere with the menstrual cycle, sometimes creating the false impression that pregnancy is not possible.
- Discuss the harmful effects of illicit drugs on fetal and must be counseled about contraception as well as access to contraceptive services.
- Pregnant/ lactating opioid dependent women should be referred and managed in specialist care setting as they need opioid maintenance therapy with extensive monitoring and possibility of Neonatal Abstinence Syndrome (withdrawal symptoms) in the newborn.
- Advice and support breastfeeding mothers not to use any illicit drugs and to breastfeed exclusively for the first 6 months, unless there is specialist advice not to breastfeed [1]

Specific investigations

Urine drug screen: For emergency cases, whenever intoxication, withdrawal, opioids overdose is suspected and the person is unable to convey what they have ingested.

History of injecting drug use: Offer serological testing for blood-borne viral infections (HIV/AIDS, hepatitis B and C) and if reactive, refer to specialist centre for management.

History of multiple unprotected sex: Offer testing for sexually transmitted infections (HIV, syphilis, chlamydia, gonorrhea).

Tuberculosis is suspected clinically: Offer sputum testing and a chest x-ray.

Pharmacotherapy

Opioid withdrawal

- **General principles:** Maintain hydration; symptom based treatment; monitor for depressive symptoms (especially risk of suicide), that may emerge during or after withdrawal; offer continued treatment and support after management of withdrawal symptoms. [7]
- **Autonomic Hyperarousal** (increased heart rate and blood pressure, sweating) during withdrawal can be managed with oral Clonidine in dose range of 0.1-0.2 mg three-four times daily. Monitor for blood pressure and heart rate, and withhold if diastolic blood pressure is <60 mmHg or heart rate <60 bpm. Unsteadiness while standing and giddiness may indicate hypotension and warrants blood pressure monitoring. Light headedness and sedation may result. Use caution in cardiac, cerebrovascular, liver

and kidney disease. DO NOT stop abruptly, as withdrawal can cause rebound hypertension. Avoid in pregnant / lactating women.

- **Manage other symptoms as they emerge** e.g. antiemetics for nausea, ORS for loose stools, simple analgesics for pain, light sedatives for insomnia.
- Often this is not sufficient to control severe opioid withdrawal symptoms. **Ideally, buprenorphine should be the first-line of withdrawal treatment, but this is not available at primary care.** For such cases, refer patients to nearest facility where this is available **(see below: OST)**

Medications in long term treatment of opioid dependence

- **Opioid Substitution Therapy (OST) with buprenorphine or methadone.** This is the gold standard worldwide. In India, as of now, OST cannot be initiated at primary care level due to legal and administrative issues (because buprenorphine and methadone are legally controlled substances under NDPS Act). Patients can be referred to nearest facilities offering this therapy (e.g., OST Clinics run by NACO for IDUs; De-addiction Centres; Outpatient Opioid-Assisted Treatment [OOAT] clinics in Punjab; Other Govt. or private psychiatrists).
- **Naltrexone:** Start 50 mg daily for 6-12 months. Ensure that there has been no opioid use in the last 7 days (if suspected use, may try administration of 0.8 mg (2ml) of Injection naloxone; but this is not mandatory). Most commonly reported side effects are sedation, dizziness, nausea/vomiting, abdominal pain, insomnia, anxiety, reduced energy, joint/muscle pain. Risk of FATAL OVERDOSE in patients who use opioids more than 24 hours after their last dose of naltrexone, due to the rapid loss of opioid tolerance. DO NOT use in patients with liver failure or acute hepatitis.

Psychosocial counselling

- **Brief Intervention (BI):** using Motivational Interviewing, in those with low to moderate risk of opioid use. It aims to identify current or potential problems with opioid use and to motivate for changing the opioid use behavior. Components of BI: Feedback, Responsibility, Advice, Menu of options, Empathy, Self efficacy (acronym FRAMES).
- **Screening, Brief Interventions, and Referral to Treatment (SBIRT):** to identify, reduce and prevent drug use disorders, in primary health settings. Evidence based and cost effective.[8]

In-patient management

- Severe dependence, concurrent use of multiple other substances
- Documented history of not engaging/benefiting from less restrictive setting
- Significant health complications (hepatitis C, infective endocarditis)
- Absent/minimal family support, familial psychopathology interfering with treatment
- Patient coming from distant place, thus making frequent visits difficult [1]

When to refer to a specialist

- Comorbid acute or chronic general medical conditions (e.g. HIV, hepatitis C etc) and severe opioid dependence (intravenous drug users). These should be referred to the closest facility providing opioid maintenance therapy (such as Buprenorphine) e.g. OOAT centers in Punjab, district/civil hospitals providing this treatment.

- History of drug overdoses
- Risk of severe or complicated withdrawal
- Multiple past failed treatment with Clonidine and Naltrexone.
- Marked psychiatric comorbidity who are in acute danger to self or others
- Chest pain, recurrent fever in patient with injecting drug use (suspect infective endocarditis)
- Elderly or pregnant females[1]

Prevention

For prevention of illicit opioid use:

a. Reducing availability of these drugs

b. Indicated and selected prevention such as identification of high risk groups

For prevention of prescription opioid misuse

a. Avoiding unnecessary prescriptions of opioids.

b. Maintaining and monitoring patients' prescription records and drug seeking behaviour.

c. Encouraging patient to get medication from a single doctor and single pharmacy.

d. Educating patient about the risks associated with opioid use.

e. Suspecting opioid abuse and misuse and suggesting adequate measures to prevent this.

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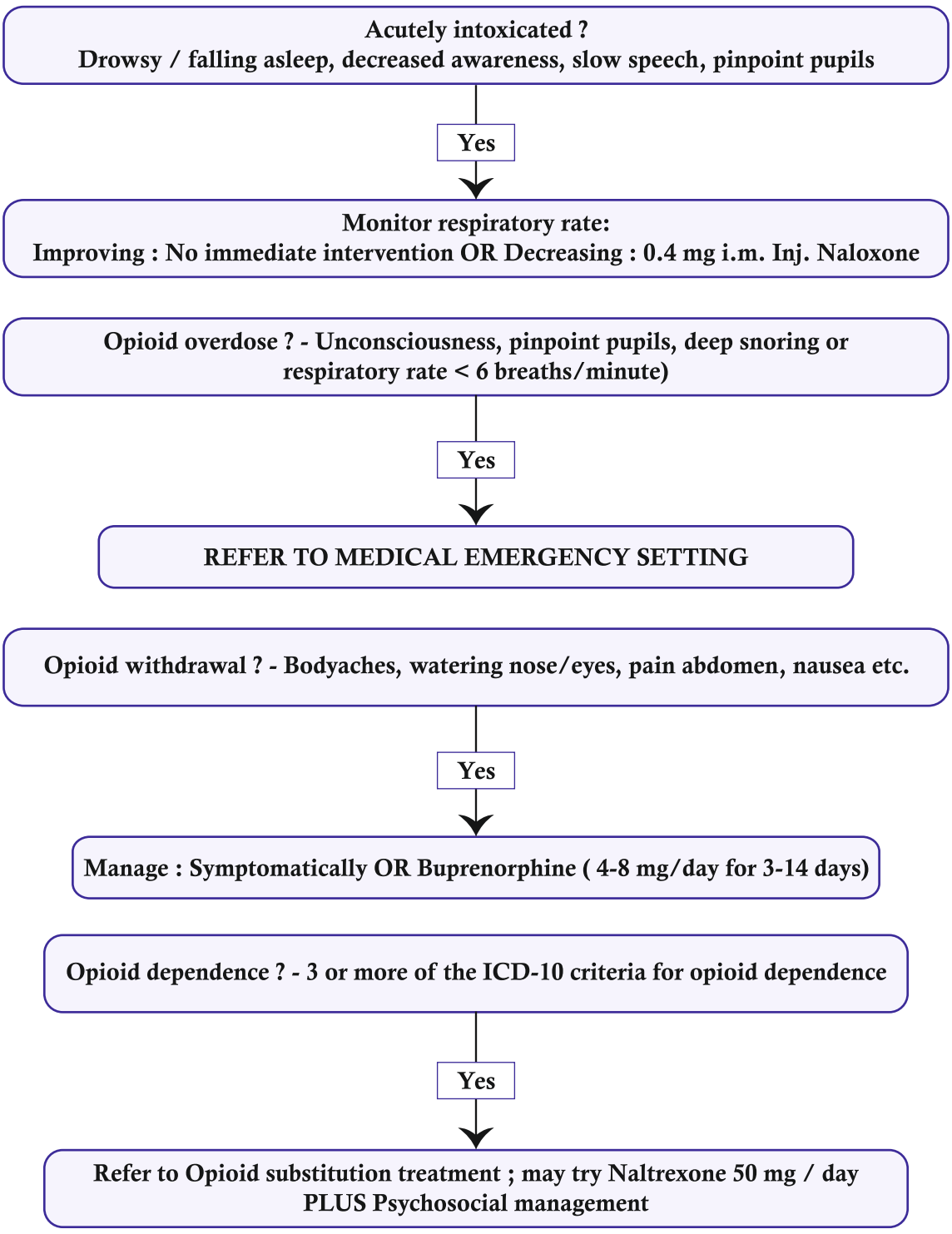
Flowchart for the management of opioid intoxication and withdrawal/opioid use disorders



CHAPTER - 4

Benzodiazepine Use Disorders

Introduction

- Benzodiazepines are the most common sedative-hypnotics used these days and are commonly prescribed for sleep or to relieve anxiety and stress in addition to addiction management.
- They are prescribed by doctors in multiple specialties including those in general practice.
- Individuals may sometimes overuse or misuse their prescriptions and are unable to stop when required to.
- Individuals may also use these drugs for recreational purpose to get a high, most often with other common substances of abuse.
- These drugs may be obtained from doctor's prescriptions, forged prescriptions, illicit pharmacies and black market which can also include the internet.
- The commonly used and abused benzodiazepines are Alprazolam, Lorazepam, Nitrazepam, Diazepam, Clonazepam, Triazolam, Chlordiazepoxide and Oxazepam. They are available in market under various trade names.
- These drugs are available in oral as well as injectable forms and are used in both forms by drug users.
- Approximately 1.08 percent use non-medical, non-prescribed sedatives.[1]
- Primary care physicians are uniquely placed to prevent, identify and manage benzodiazepine abuse or dependence.

Scope of the chapter

By the end of the chapter, the physician should :

- Know about the risks associated with non-prescription benzodiazepine use
- Be able to identify problematic benzodiazepine use
- Be able to identify patients with benzodiazepine dependence.
- Manage benzodiazepine dependence
- Know when to refer a patient of benzodiazepine dependence for specialist care
- Be aware of the physician's role in the prevention of Benzodiazepine misuse

Clinical presentation

Benzodiazepines are used for their sedative-hypnotic, anxiolytic, anticonvulsant, muscle relaxant and amnesic properties. They are useful in the short term and hence recommended for prescriptions of up to two to four weeks. Tolerance for the specific effects of benzodiazepines develop at different rates. While tolerance for its hypnotic effect develops rapidly, in days; tolerance for anxiolytic, muscle relaxant and anticonvulsant actions develop over weeks to months. On the contrary, tolerance for amnesic and other cognitive effects is minimal if at all it occurs. Problematic use of benzodiazepines is associated with escalation of doses, intoxication, physical harm including falls and fractures, road traffic and other accidents, and mental harm including withdrawal and dependence syndromes, depression and worsening of anxiety.[2]

Intoxication/ Overdose

Benzodiazepine overdose occurs when an excessive amount of the drug is taken. This often occurs in the background of multiple substance abuse or in persons with mental illness. Intoxication presents with excessive sedation, dizziness, confusion, agitation, anxiety, hallucination and mood changes, slurred speech or seeming drunk, amnesia, and blurred vision. Hypotonia with reduced postural stability and diminished reflexes are characteristic. Acute overdose may induce respiratory depression resulting in coma or even death in some cases.

Withdrawal syndrome

Sudden stopping of benzodiazepines after long term use can result in withdrawal. The withdrawal symptoms (Box 1) can develop early (within 2-3 days) or can be delayed depending on type and dose of the drug used.

Box 1. Withdrawal Symptoms

Anxiety, panic attacks, agoraphobia, loss of appetite, mood changes, paranoia
Rapid breathing, palpitations, tremors, sweating
Dizziness, disturbed sleep, depersonalization, derealization
Overt sensitivity to noise, visual disturbances, tingling, numbness, altered sensations, formication (sensation of insects crawling over the body)
Muscle twitches, jerks, fasciculations
Seizures, confusion, hallucinations

In patients with comorbid anxiety disorder, it may be difficult to distinguish these symptoms from those of rebound or recurrence of anxiety symptoms.

Benzodiazepine dependence

Dependence syndrome includes physical dependence as well as other features of addiction which are described below in the section on diagnosis. Three distinct patterns of benzodiazepine dependence have been documented. [2]

Table 1 : Profiles of patients with benzodiazepine dependence

Dependence Type Attributes	Low or Therapeutic dose Dependence	Prescribed high dose dependence	Recreational high dose dependence
Prescribed drug	Yes	Yes	No
Dose escalation beyond therapeutic range	No	Yes	Yes
Withdrawals experienced	Yes	Yes, may be severe due to the high dose	Yes, may be severe due to the high dose
Procuring drug from multiple and Illicit sources	No	May be	Yes
Co-morbid substance use	No	Often not	Common
Multiple benzodiazepines used	No	No	Common
Injecting drug use	No	No	May be present

How to diagnose

Detailed history and careful observation of drug seeking behavior would be important to diagnose problematic use or dependence on benzodiazepines. The behaviors that suggest problematic use are listed in box 2. WHO ASSIST can be used for the screening.

Diagnosis is based as per International Classification of Disease (ICD) criteria. Benzodiazepine dependence can be diagnosed as per ICD 10 when three or more of the six criteria are present together within previous 12 months. Harmful use diagnosis requires benzodiazepine use causing damage to physical or psychological health.

Box 2. Behaviours that suggest problematic use
Early and frequent prescription renewal
Requesting for prescriptions even when symptoms have reduced
Complaining aggravation of symptoms to get escalated doses
Trying to get drugs from multiple sources
Request for specific drugs
Escalating doses on their own
Using the drug for other symptoms
Buying or Selling prescription drugs
Losing prescriptions repeatedly
Injecting oral formulations
Obtaining prescription drugs from illicit sources
Alcohol and other substance use

Special populations

Women: Women are more frequently prescribed benzodiazepines as compared to men for comorbid mental health conditions, they develop dependence syndrome faster and have more severe withdrawal symptoms.

In pregnant women using Benzodiazepines, these drugs cross the placenta, and can cause foetal and neonatal complications like intrauterine growth retardation and floppy infant syndrome. The neonate can have withdrawals manifested as hyperexcitability, high-pitched crying and feeding difficulties.[3]

Elderly: Benzodiazepine use in elderly can result in confusion, amnesia, loss of balance, "pseudodementia" and night wandering. Risk of fall increases which could be severely debilitating. Benzodiazepines should be avoided in elderly as far as possible. If prescribed, they should be prescribed for not more than one month. Drugs with longer half-life and active metabolites should be avoided.[4]

Specific investigations

Urine drug screen tests are available to screen for benzodiazepine use.

Scales for Benzodiazepine withdrawal such as Clinical Institute Withdrawal Assessment Scale for Benzodiazepines (CIWA-B) can be used to assess the severity of withdrawals. Withdrawals are classified as mild, moderate, severe and very severe.

Table 2 : Clinical Institute Withdrawal Assessment Scale for Benzodiazepines (CIWA - B)

CIWA Section 1- Patient Report					
Do you feel irritable?	0 Not at all	1	2	3	4 Very much so
Do you feel Fatigued?	0 Not at all	1	2	3	4 Unable to function
Do you feel tense?	0 Not at all	1	2	3	4 Very much so
Do you have difficulties concentrating?	0 Not at all	1	2	3	4 Unable to concentrate
Do you have any loss of appetite?	0 Not at all	1	2	3	4 No appetite, unable to eat
have you any numbness or burning on your face, hands or feet?	0 No numbness	1	2	3	4 Intense burning/numbness
Do you feel your heart racing? (palpitations)	0 No disturbance	1	2	3	4 Constant racing
Does your head feel full or achy?	0 Not at all	1	2	3	4 Severe headache
Do you feel muscle aches or stiffness?	0 Not at all	1	2	3	4 Severe stiffness or pain
Do you feel anxious, nervous or jittery?	0 Not at all	1	2	3	4 Very much so
Do you feel upset?	0 Not at all	1	2	3	4 Very much so
How restful was your sleep last night?	0 Not at all	1	2	3	4 Very much so
Do you feel weak?	0 Not at all	1	2	3	4 Very much so
Do you think you didn't have enough sleep last night?	0 Very much so	1	2	3	4 Not at all
Do you have any visual disturbance? (Sensitivity to light, blurred vision)	0 Not at all	1	2	3	4 Very sensitive to light, blurred vision
Are you fearful?	0 Not at all	1	2	3	4 Very much so
Have you been worrying about posssible misfortunes lately?	0 Not at all	1	2	3	4 Very much so

CIWA Section 2 Clinician Rating					
Observe behaviour for sweating,, restlessness and agitation		Observe tremor		Observe feel palms	
0	None, normal activity	0	No tremor	0	No sweating visible
1		1	Not visible, can be felt in fingers	1	Barely perceptible sweating, palms moist
2	Restless	2	Visible but mild	2	Palms and forehead moist, reports armpit sweating
3		3	Moderate with arms extended	3	Beads of sweat on forehead
4	Paces back and forth, unable to sit still	4	Severe, with arms not extended	4	Severe drenching sweats

Total Score Items
1–20 = mild withdrawal
21–40 =moderate withdrawal
41–60 = severe withdrawal
61–80 = very severe withdrawal

Pharmacotherapy

Substitution of high potency short or intermediate acting benzodiazepines with a single long acting benzodiazepine like Diazepam and Chlordiazepoxide (Table - 1) is recommended. Standard guidelines recommend gradual tapering of the dose.[5,6] The rate has to be decided based on assessment of the drug used, its dose and duration, severity of withdrawals, use of other substances and comorbidities. Dose should preferably not be escalated or reverted while tapering; if required tapering could be halted at a dose and rescheduled. Roughly 10-15 percent of dose or 5 mg diazepam equivalent reduction per week is the recommended rate of dose reduction. It could be still slower during the later phase of tapering. It would take around six to eight weeks to taper off and in some cases even longer. If the duration of benzodiazepine use has been less than four to eight weeks, tapering might not be required. [7] Additionally, carbamazepine may be required during withdrawal management in high dose benzodiazepine dependent patients. Such patients are better managed under specialist care.[7]

Table 3: Benzodiazepine equivalents

Benzodiazepine	Duration of Action	Equivalent dose (mg)
Alprazolam	Short	0.5 – 1
Lorazepam	Short	0.5 – 1
Triazolam	Short	0.25
Clonazepam	Long	0.25 - 0.5
Diazepam	Long	5
Chlordiazepoxide	Long	10-25
Nitrazepam	Long	5

Psychosocial counselling

In the management of benzodiazepine misuse and low dose dependence, psychosocial counselling and other behavioural methods are often sufficient. This includes:

a. Reviewing and discussing prescription records with patients and psychoeducation of risk involved with prolonged benzodiazepine use.

b. Sending advisory communications suggesting dose reduction or complete cessation.

c. Acknowledging that benzodiazepine withdrawal can be stressful and preparing the patient for it.

d. Advising on ways to gradually taper benzodiazepine use.

e. Psycho-education about role of non-pharmacological methods like relaxation training, sleep hygiene to cope with anxiety, insomnia and withdrawal discomfort.

f. Lifestyle modification suggestions such as regular exercise, yoga and avoiding alcohol use.

g. Advice to avoid or control use of tea, coffee and other stimulants that can cause or exacerbate anxiety, panic and insomnia.

h. Involving family, friends and other support systems to participate in the process and also to encourage patient to taper off benzodiazepines.

i. Referral to support groups or trained psychological help providers for Cognitive Behaviour Therapy and other psychological help.

Inpatient management

Indications

a. High dose dependence
b. Polysubstance use or use with other hypnotics and/or alcohol
c. Inconsistent use history
d. Presentation with complications
e. Patients requiring management for comorbidities
f. Failed tapering in outpatient setting

Resources

a. Medical professionals with adequate training
b. Nursing staff for monitoring
c. Availability of Long acting benzodiazepines

d. Inpatient care facility
e. Emergency management facility
f. Facility for management of comorbidities

Approaches

a. Replacement of short and medium half-life drugs with longer half-life drugs like diazepam and chlordiazepoxide
b. Tapering to low dose
c. Considering addition of carbamazepine
d. Management of other substance use disorders and comorbid conditions
e. Psychosocial methods

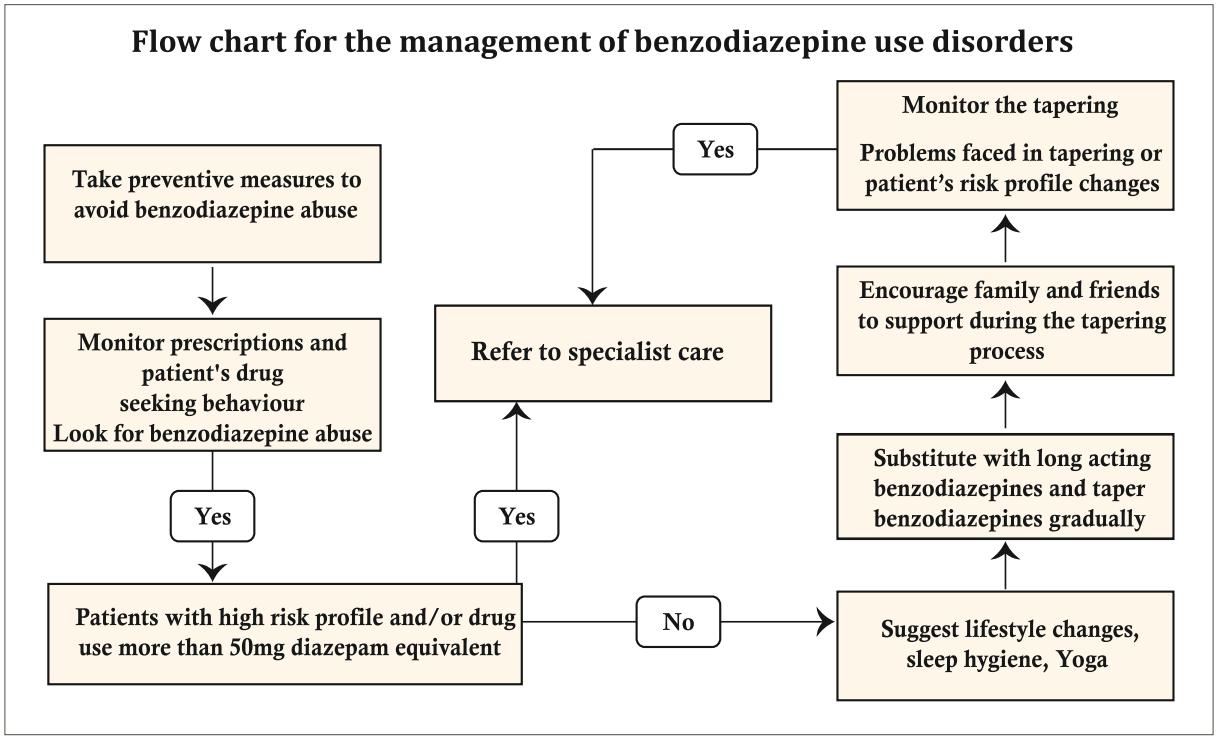
When to refer to a specialist

1. High risk patients are required to be referred to specialist care. These are patients with high dose dependence (50mg or more of Diazepam equivalent), who have more complex medical or psychological needs, patients at risk of adverse events or those who require hospitalization[7]
2. Patients who are otherwise being managed at primary care may also require specialist referral when physician notes an unexpected dose escalation, in cases of misuse of prescription, if patient continues to have high level of distress or worsening of primary symptoms, when patients pose risk to themselves or others, or are at risk from others.[6]

Prevention

The physician can play a major role in prevention of benzodiazepine abuse by:

a. Avoiding unnecessary prescriptions of benzodiazepines.
b. Restricting benzodiazepine prescription to minimum duration not beyond 6-8 weeks.
c. Maintaining and monitoring patients' prescription records and drug seeking behaviour.
d. Encouraging patient to get medication from a single doctor and single pharmacy.
e. Educating patient about the risks associated with benzodiazepine use.
f. Suspecting benzodiazepine abuse and misuse and suggesting adequate measures to prevent this.
g. Making early specialist referral if required.
h. Promoting healthy lifestyle and advising non-pharmacological methods of coping with anxiety and insomnia.



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CHAPTER - 5

Inhalant Use Disorder

Introduction

- Inhalants contain volatile substances that are self-administered through inhalational route to induce a psychoactive or mind-altering effect. [1]
- These are easily available, legal, and inexpensive. Their use has been observed among individuals from dis-advantaged backgrounds and adolescents.
- Prevalence of inhalant use in India is 0.7%; higher among children and adolescents (1.17%)[1] especially in Uttar Pradesh, Madhya Pradesh, Maharashtra, Delhi and Haryana. [1]
- Inhalants can be classified into following types:[2]
  a) Volatile solvents: Include glue, shoe polish, toluene (used in paint thinners, inks, adhesives), trichloroethylene (used in correction fluids), and gasoline
  b) Aerosol sprays (volatile substances or gases such as spray paints, hair sprays, cleaners for computers, etc.)
  c) Gases, e.g. anaesthetics for medical use and refrigeration products
  d) Nitrites include products containing butyl nitrite and amyl nitrite, locker room deodorizers, and nitrous oxide
- Commonly abused inhalants are: ink eraser fluid/correction fluid, petrol and adhesive glue
- Inhalants are taken in various modes. 'Sniffing' or 'snorting' involves the direct inhalation of fumes, 'bagging' from a plastic or paper bag, 'huffing' from a rag or cloth soaked in the substance held over the mouth or nose, 'glading' from air freshener aerosols, and 'dusting' involves the direct spraying of aerosol cleaners into the mouth or nose.[3,4]

Scope of this chapter

By the end of this chapter, the physician should be able to:

- Identify at risk or vulnerable individuals
- Provide awareness about various products which can be abused as inhalants, their deleterious effects, identifiers of inhalant use and available treatment options
- Screen for inhalant use, provide basic treatment and brief psychosocial intervention
- Refer appropriate cases to specialised centres and provide follow up services in consultation with psychiatrists at these centres
- Extend support by collaborating with various stakeholders like schools, hospitals, employers, workers, groups, relevant government agencies, non-governmental organizations and community volunteers

Clinical presentation[3,5]

Subjective effects of inhalants are similar to those of CNS depressants like alcohol

Initial effects include stimulation, disinhibition and euphoria : This is followed by hallucinations and then a general depression, including slurred speech, disturbed gait, dizziness, disorientation, and drowsiness

Inhalant intoxication: Apathy, behavioural change, impaired judgment, impulsive or aggressive behaviour, nausea, anorexia, nystagmus, depressed reflexes, diplopia, dizziness, incoordination, slurred speech, lethargy, psychomotor retardation, tremor, generalized muscle weakness, stupor or coma

Inhalant withdrawal: Symptoms are generally mild, in form of restlessness, inattentiveness, anxiety and craving, lasting for around 2-5 days.

Chronic use: Cognitive impairment, arrhythmias, cardiomyopathy, breathing difficulties, anosmia, leukaemia, renal failure, hepatotoxicity; possible teratogenicity, preeclampsia and spontaneous abortions in pregnant women.

How to diagnose

- Diagnosis of Inhalant dependence is made using ICD-10 criteria (if 3 or more are present):[6]
- The signs of inhalant use are usually subtle. Following may serve as useful pointers:[3,5]
  - Unusual breath
  - Rashes around mouth and nose (sniffer's rash)
  - Residue of the inhalant substances on face, hands, or clothing
  - Irritation in eyes, throat, lungs, and nose
  - Drowsiness, inco-ordination
- Screening tools like CRAFFT [7,8] and ASSIST[9] help in detecting and managing substance use and related problems in primary and general medical care settings.

Special populations

Children and adolescents

- Due to its easy availability and cheaper price, inhalants often act as a 'gateway drug' for children and adolescents, particularly for those from economically dis-advantaged background.
- Presentation: Recent change in patient's behaviour, unusual secretiveness in acts and possessions, deterioration in studies or job, impairment in attention or memory, delinquent behaviour, stealing money, having unusually large cache of inhalants, in addition to those described above.
- Early identification of risk factors and affected individuals through widespread screening is the mainstay of management.

Specific investigations [10]

- Laboratory tests are not routinely done for detection of inhalant use. However, abnormal non-toxicological laboratory results, such as elevated liver enzymes, can arouse suspicion.
- During acute or suspected inhalant use, complete blood count, serum electrolyte, calcium and phosphorous levels, acid-base assessment, hepatic and renal profiles, and cardiac/muscle enzyme analysis should be done.
- Specific drug testing in case of inhalants is infrequent due to their relatively brief presence in the body However, simple colorimetric tests to detect toluene may be useful to detect recent inhalant use

Pharmacotherapy

- Inhalant users do not typically seek medical attention, except in cases of intoxication or complications
- Intoxication usually requires supportive care with monitoring of vital parameters and level of consciousness.
- Complications are treated by specific treatment measures and may require referral.
- Inhalant withdrawal is also managed conservatively. Hydration should be maintained. Low dose benzodiazepines can be given to manage sleep disturbance, agitation and anxiety, and analgesics for headache or other pains.

Psychosocial counselling

- Mode of intervention may be decided based on ASSIST score (as depicted in flowchart).
- Psycho-educate patient and family members about the nature of the disorder, possible harms and complications, harm minimization, treatment process and recovery.
- Emphasize on re-entry/being regular at school and vocational skills.
- In cases of low to moderate risk of inhalant use, Brief Intervention (BI) can be provided, using Motivational Interviewing. It aims to identify current or potential problems with substance use and to motivate for changing the substance use behaviour. Components of brief interventions include FRAMES.[11]

In-Patient management

Under certain circumstances, patients with inhalant use might require in-patient management, which include:

- Severe dependence
- Use for a prolonged duration
- Multiple failed abstinent attempts in the past
- Significant health complications
- Concurrent use of multiple other substances
- Severe dysfunction at home or school
- Absent/minimal family support, and/or presence of familial psychopathology interfering with treatment and care

The immediate management involves detoxification, management of medical complications and establishing rapport. Thereafter, focus is on treatment of comorbid conditions and psychosocial interventions for the inhalant use.

When to refer to specialist

Patient can be referred to a specialist centres in the following situations:

- Severe dependence (based on assessments)
- Comorbid psychiatric diagnosis

- Elderly or pregnant females
- Comorbid severe medical conditions (e.g. HIV etc)
- Highly disturbed family environment and interpersonal relationships (requiring intensive psychotherapies)

Prevention [11,12]

Comprehensive prevention programs at community level to prevent inhalant use and disorders include:

Targeted intervention for children at risk eg. early identification and management of hyperactivity, inattention, conduct traits, delinquent behaviour, abuse in children and adolescents. Focused programs can be held for school students, school drop outs, child and adolescent apprentices in various trades like painting, carpentry, construction work, homeless children and adolescents, beggars etc.

Secondary prevention: It involves early diagnosis and management of dependence and complications (discussed earlier) using a case manager approach.

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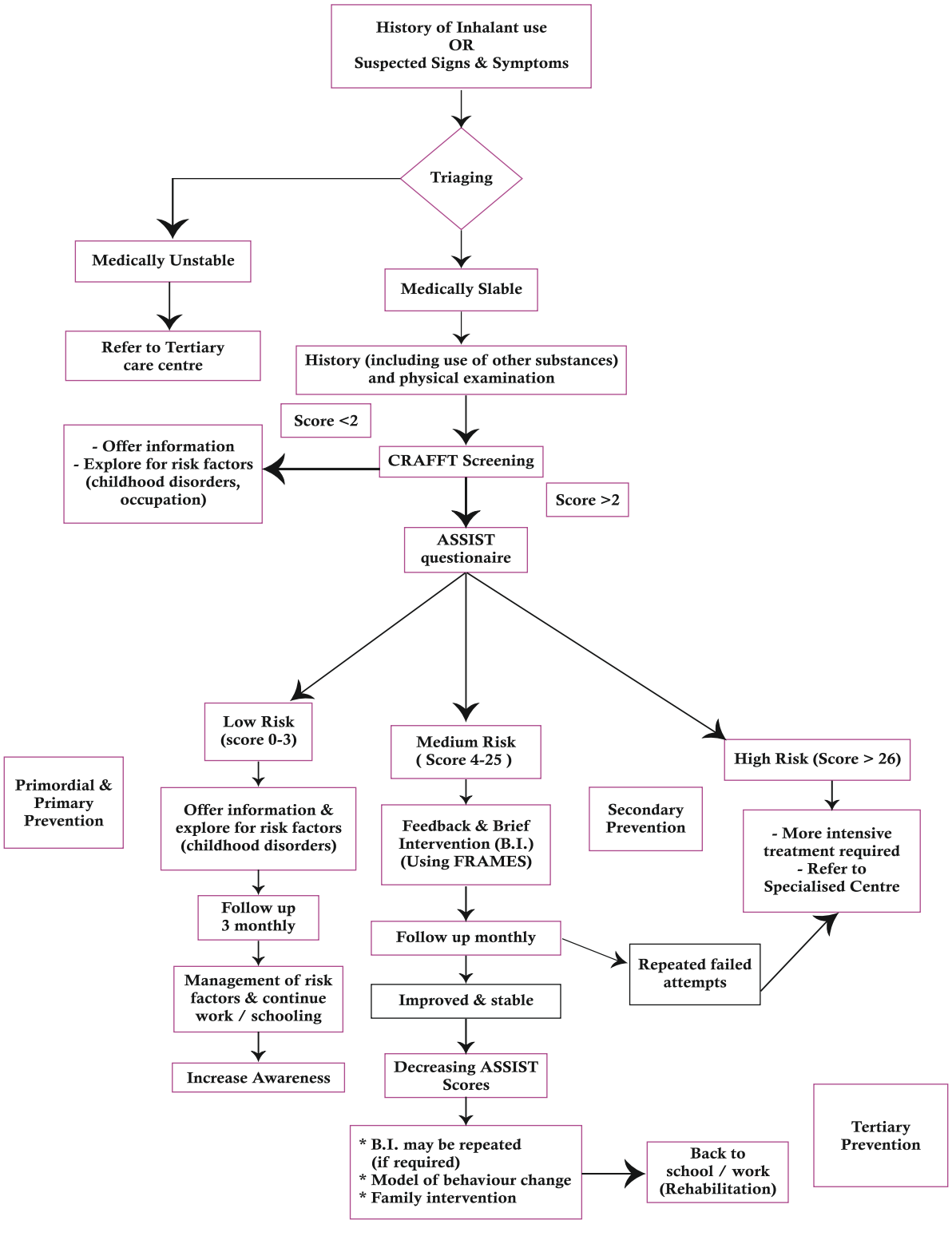
Flowchart For The Management of Inhalant Use



CHAPTER - 6

Stimulant Use Disorders

Introduction

- Stimulants are agents which act on the central nervous system to increase brain activity resulting in excitation, increased alertness, focussed attention and euphoria.
- Stimulants are derived either from natural sources like plants (cocaine from erythroxylon coca, ephedrine from ephedra plant or cathinone), or synthesized in the laboratory (mephedrone or amphetamines).
- Adolescents and young adults are often drawn towards these 'cooler' and 'more fashionable' drugs, which are popularly known as ice, meth, speed, ecstasy and W.
- The last decade has seen the emergence of new psychoactive substances (NPS) that include newer stimulants which are known as amphetamine-type stimulants (ATS).
- These stimulants are synthesized in illegal laboratories, are cheaper and beyond the purview of Narcotics Drugs and Psychotropic Drugs Act (NDPS Act) 2014 [1].
- In India, about 0.18% of males and 0.01% of females – 0.01% between the ages of 10 and 75 years of age are current users of cocaine[2]. This corresponds to about 10.7 lakh current users of which 3.2 lakh are using cocaine in harmful and dependent pattern. States with sizeable numbers of current cocaine users are Maharashtra, Punjab, Rajasthan and Karnataka.
- For Amphetamines-type stimulants (ATS), current use between the ages of 10 and 75 years of age is 0.18% [2] (Approximately 19.4 lakh individuals) with 0.06% (Approximately 7 lakh individuals) are estimated to use ATS in a harmful or dependent pattern.
- The principal routes used to administer stimulants like cocaine and ATS are oral ingestion, nasal insufflation (snorting), intravenous injection, and inhalation of smoke vapours (smoking/inhalation). These stimulants can also be taken vaginally, rectally, or sublingually.[3]
- The classification of stimulants is based upon the abuse potential and their prescription model [4]. This classification is relevant in differentiating the more potent and dangerous stimulants from the often prescribed and low potency stimulants.

Table 1: Classes of stimulants

Class	Description	Examples
Class I	This class of agents have high abuse potential and they cannot be prescribed. They are primarily synthetic agents	• Cathinone, Methcathinone • Mephedrone (Meow - Meow) • MDMA or Ecstasy (methylene - dioxy) methamphetamine)
Class II	High abuse potential with severe physical of or psychological dependence Includes both prescription and non - prescription drugs	• Cocaine • Amphetamines • Methylphenidate
Class III	Weaker stimulants with low abuse potential	• Fenfluramine • Sibutramines • Modafinil • Armodafinil

Clinical presentation

Stimulant intoxication is characterised by physiological and psychological effects following intake of a stimulant drug.

Table 2: Symptoms and Signs of Stimulant Intoxication

Physiological effects	Psychological/Behavioural Effects
• Dilated pupils • Diaphoresis (profuse sweating) - often with chills • Hypertension (elevated blood pressure) • Tachycardia , with or without arrhythmia and chest pain • Bradycardia • Hyperthermia • Suppressed appetite, weight loss • Bruxism (teeth grinding) • Insomnia or decreased need for sleep • Tremors • Seizures - mostly for cocaine users • Headache - occasionally	• Euphoria, heightened sense of well being • Increased vigour, giddiness, and sense of enhanced mental acuity and performance • Agitation, restlessness, irritability • Rapid shifts in thinking • Poor concentration • Grandiosity, exaggerated self -esteem • Hypervigilance, with increased curiosity about the environment • Fearlessness, suspiciousness • Clear sensorium, not usually disoriented • Aggression and emotional lability, with potential for violence

Adapted from Treatment for Stimulant Use Disorders. Treatment Improvement Protocol (TIP) Series, No. 33.Center for Substance Abuse Treatment. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 1999.

MDMA (ecstasy) intoxication is distinguished from other stimulant intoxication by the tendency for calmness and empathy. However, high doses of MDMA may lead to hyperthermia which may lead to rhabdomyolysis (with resulting myoglobinuria and renal failure), liver damage, or disseminated intravascular coagulation (resulting in hemorrhage)[6]

Stimulant Withdrawal occurs following abrupt cessation of regular stimulant use and is associated with[7,8] depression, anxiety, fatigue, psychomotor retardation, difficulty concentrating, impaired memory, increased craving, increased appetite, hypersomnolence, increased dreaming (because of increased REM sleep). The initial period of intense symptoms is commonly termed the "crash," but most symptoms are mild and self-limited, resolving within 1-2 weeks without treatment.

Medical complications include myocardial ischemia, nonspecific musculoskeletal pain, tremors, chills, and involuntary motor movements. Hospitalization for stimulant withdrawal is rarely indicated on medical grounds and has not been shown to improve the short-term outcome for stimulant addiction. [9,10]

Stimulant induced psychosis

Stimulants can induce a schizophrenia- like psychotic disorder independent of a primary psychotic disorder. This psychosis is usually self- limiting within a week but may include symptoms like lack of concentration, delusions of persecution, increased motor activity, disorganization of thoughts, lack of insight, anxiety, suspicion and auditory hallucinations.

Disorganization of thought manifested by loosening of association, concrete thinking and tangentiality in schizophrenia may be less prominent in stimulant induced psychosis however the two may be indistinguishable.

How to diagnose

Stimulant Dependence can be diagnosed based upon the medical and psychiatric assessment of the individual who self-reports the substance use. The diagnosis may be confirmed using blood or urine testing which may be available only at specialist centres.

In ICD-10, a diagnosis of Stimulant Dependence, can be made if the individual has met at least three of the six possible criteria in the last 1 year [11]. Screening instruments which can be easily used at the primary care level for stimulant use include the WHO-ASSIST (WHO Alcohol, Smoking and Substance Involvement Screening Test Version 3.0) [12] and the DAST-10 (Drug Abuse Screening Test) [13] tools. DAST-10 consists of 10 item brief scale which can be self or clinician administered. It assesses drug use during the past 12 months, not including alcohol or tobacco use.

Special populations

Children and adolescents

Stimulant use is a growing concern in the young, especially the adolescent age group. The adolescent patient is more likely to be dependent upon methylphenidate which is prescribed for ADHD.

Psychiatric Comorbidity

Stimulant use disorders are often comorbid with alcohol or cannabis use disorder, IV drug use, bipolar mood disorder and psychosis. Patients with dual diagnosis may be referred to specialist centre.

Medical Comorbidity

Stimulant users have higher than average incidence of thyroid disorders, diabetes, hepatitis and HIV/AIDS

Specific Investigations

Urine drug testing for amphetamines and cocaine is possible. Urine testing kits make use of ELISA based assays. Amphetamine type stimulants can be detected up to 48 hours after last use and cocaine metabolites are detectable in urine up to 4 days. Blood testing is less reliable for drug use screening.

Pharmacotherapy

Stimulant intoxication

- General supportive measures, a low stimulus environment, reassurance and support, while waiting for the symptoms to remit spontaneously with abstinence
- Emesis or gastric lavage indicated if the patient has MDMA toxicity from oral intake, is alert and has taken MDMA less than 4 hrs previously.
- Rehydrate and correct fluid and electrolyte imbalance, particularly hyponatraemia.
- If symptoms are severe and the patient becomes a danger to him/herself or to others, the patient should be referred to a specialist centre for inpatient management

- Exclude other causes of an organic brain syndrome
- No specific antidote is available for stimulant intoxication

Stimulant induced psychosis

Benzodiazepines are prescribed as the first line of treatment for stimulant induced psychosis [14].

- Lorazepam 2-4 mg orally or through intravenous route may be repeated every hour until the patient is calm
- Diazepam-10-20 mg orally; repeat 2-hourly if necessary, until the patient is calm and mildly sedated; monitor vital signs every hour, maximum dose 120 mg in 24 h. if more diazepam is required, seek specialist advice.

If there is inadequate response to benzodiazepines, then antipsychotic drugs may be used as second line agents

- Haloperidol 2.5-5 mg intramuscularly three times daily
- Olanzapine: 5-10 mg orally or intramuscularly or
- Risperidone 2-4 mg orally

For persistent symptoms, the patient may be referred to a specialist centre. The acute intoxication usually resolves within a period of hours and therefore continuing medications may not be necessary. However, patients need to be observed for emergence of symptoms of stimulant withdrawal or the persistence of psychiatric symptoms.

Stimulant withdrawal syndrome

The acute symptoms can be quite severe, including intense suicidal ideations, but these are usually short-lasting and self-limiting.

- Patients with severe symptoms and/or suicidal ideations should be monitored and treated in an inpatient setting.
- Benzodiazepines form the mainstay of treatment in acute withdrawal states as well.
- For short term relief of severe agitation or insomnia, atypical antipsychotics like olanzapine, quetiapine or risperidone may be given.
- For depression following stimulant withdrawal, antidepressants with dopaminergic action like Bupropion (150-300 mg per day) or Desipramine (100-200 mg per day). SSRIs may be used with caution due to the risk of development of serotonin syndrome when they are used along with stimulant use.

Stimulant dependence

The first several weeks of treatment have some relatively simple and straightforward priorities. They are to

- Establish treatment attendance
- Discontinue use of psychoactive substances
- Finish assessment of clinical needs

- Remediate stimulant "withdrawal" symptoms
- Resolve any immediate crises

Sudden cessation of stimulant use is actually the best strategy for initiating detoxification. Following discontinuation, the stimulant that is abused may be replaced by a milder stimulant like Modafinil which may be initiated in the dose of 200-400 mg per day. Modafinil use in contraindicated in patients with comorbid bipolar disorder or psychosis and in patients with left ventricular hypertrophy and mitral valve prolapse.

Topiramate at doses between 75-200 mg has shown to be successful in reducing rates of relapse especially in cocaine users. Bupropion and Desipramine have been used as relapse prevention medication in users of amphetamine type stimulants. Mirtazapine (15mg-45 mg) is also indicated to prevent relapse.

Psychosocial counselling

Psychological interventions are considered to be the first line treatment for individuals with stimulant use disorders. These include:

1. Motivational Enhancement Therapy (MET)
2. Contingency Management (CM)
3. Relapse Prevention Strategies

These include identification and prevention of specific relapse risk factors in stimulant users [15]. Common factors are:

- Alcohol/secondary substance use leading to stimulant relapse.
- Return to substance-using friends
- Sexual behaviour associated with substance use
- Craving elicited by external and internal stimuli.
- Negative affective states

Inpatient management

Treatment of stimulant withdrawal and the initial treatment of stimulant use disorders can be started on an inpatient basis to ensure abstinence, thorough psychiatric evaluation, treatment planning and pharmacological treatment. However, most of these goals may be achieved on an outpatient basis with frequent follow up visits to the OPD.

When to refer to a specialist

- Severe dependence or high risk of harm to self or others (based on assessments)
- Stimulant induced psychotic disorder
- Dual diagnosis(IV drug use, bipolar disorder or psychosis) or comorbid medical condition (Hepatitis, HIV/AIDS, Diabetes)
- Frequent Relapses
- Chronic stimulant use resulting in depression

Prevention

The mental health professionals should be careful in diagnosing ADHD and overprescribing stimulants like methylphenidate, amphetamines and modafinil especially in the adolescent population.

Vulnerable groups for stimulant use disorders include those who have been physically or sexually abused, those with poor social integration, juvenile offenders, youth with mental health problems, gay, lesbian, bisexual and transgender youth, and children of substance-abusing parents.

This population should be especially screened and targeted interventions may be useful in preventing stimulant use disorders.

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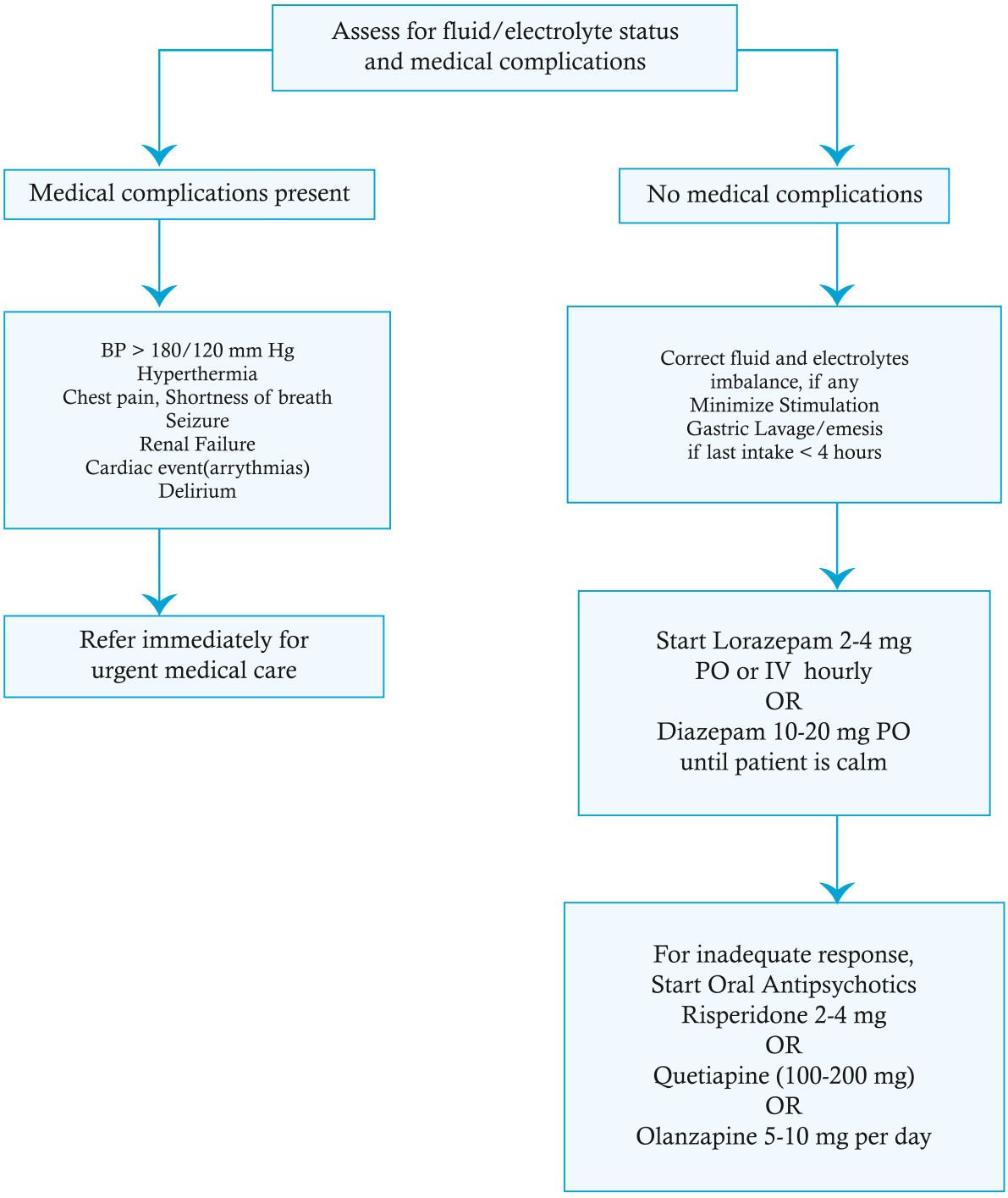
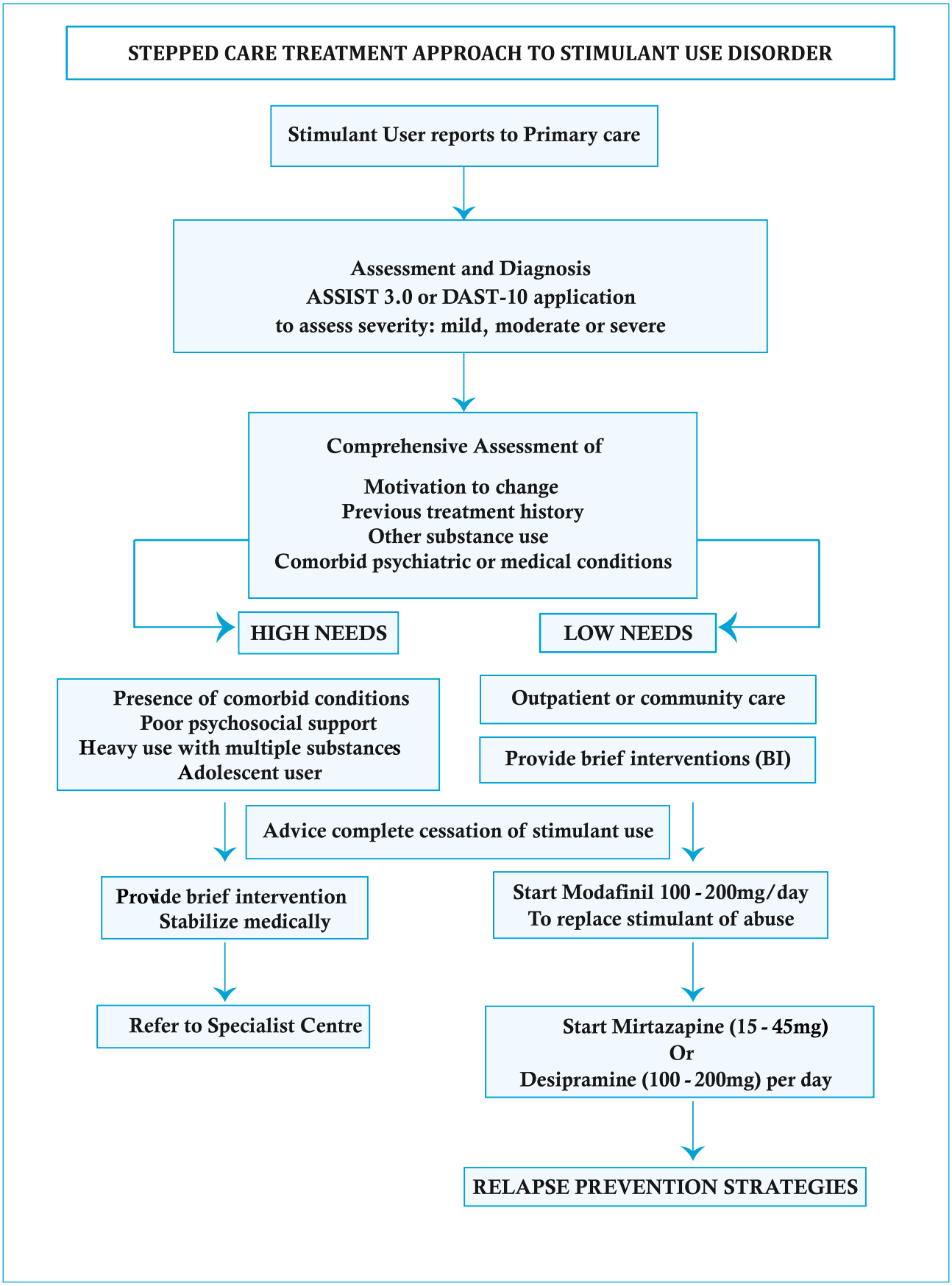
ALGORITHM FOR MANAGEMENT OF ACUTE STIMULANT INTOXICATION




STEPPED CARE TREATMENT APPROACH TO STIMULANT USE DISORDER
Stimulant User reports to Primary care
Assessment and Diagnosis
ASSIST 3.0 or DAST-10 application
to assess severity: mild, moderate or severe
Comprehensive Assessment of
Motivation to change
Previous treatment history
Other substance use
Comorbid psychiatric or medical conditions
HIGH NEEDS
LOW NEEDS
Presence of comorbid conditions
Poor psychosocial support
Heavy use with multiple substances
Adolescent user
Outpatient or community care
Provide brief interventions (BI)
Advice complete cessation of stimulant use
Provide brief intervention
Stabilize medically
Refer to Specialist Centre
Start Modafinil 100 - 200mg/day
To replace stimulant of abuse
Start Mirtazapine (15 - 45mg)
Or
Desipramine (100 - 200mg) per day
RELAPSE PREVENTION STRATEGIES

CHAPTER - 7

Prescription Drug Misuse

Introduction

- According to the World Drug Report released by the United Nations in 2018, the non-medical use of prescription drugs is slowly becoming a major threat to public health.
- The common drugs in the category include sedative-hypnotics and opioids.
- Sedatives such as Benzodiazepine group drugs are commonly prescribed for various disorders, and although they are not over the counter drugs and are meant to be strictly regulated, availability of such drugs in the black market creates a huge potential for their misuse. Their misuse is often as self-medication where people tend to use it as a form of chemical coping. [1]
- A similar scenario has emerged for the opioids including drugs such as tramadol, fentanyl, dextropropoxyphene and buprenorphine. Relatively easy availability of combination pain medications containing opioids has now become a major issue in terms of their misuse. In a multi-level analysis of measuring misuse of opioid analgesics in polysubstance users by Morley et al in 2017, a 4-fold odds for misuse and 6-fold odds for abuse of benzodiazepines and opioids was seen in polysubstance users. [2]
- At the national level, about 1.08% Indians are current users of non-prescription sedatives. Of the general population about 0.11% use benzodiazepines in a dependent pattern. [3] The current prevalence of use of any form of Opioid is around 2.06%. Heroin is the most commonly used opioid (1.14%), closely followed by pharmaceutical opioids (0.96%)

Table 1. Commonly Misused Prescription Drugs

Categories	Examples	D Route of Administration	Dea Schedule
DEPRESSANTS			
Benzodiazepine	Lorazepam, Clonazepam, Alprazolam, Diazepam etc.	Taken orally and injected	IV
Barbiturates	Phenobarbital	Taken orally and injected	II, III, IV
Z Drugs	Zolpidem	Swallowed	IV
OPIOIDS AND MORPHINE DERIVATIVES			
Cough Syrups	Codeine	Taken orally	II, III, IV
Narcotic Analgesics	Morphine	Taken orally, injected	II, III
	Methadone	Taken orally	
	Buprenorphine	IV	
	Pentazocine	IM or IV	IV
Other opioid pain relievers	Meperidine, Oxycodone, Propoxyphene, Tramadol, Tapentadol	Taken orally, chewed, injected, used as suppositories	II, III, IV
STIMULANTS			
Methylphenidate		Taken orally/injected	IV

- Steroid Abuse: Testosterone and its derivative including androgenic-anabolic steroids (AASs) have been used to treat many conditions including osteoporosis, primary or secondary hypogonadism, HIV wasting syndrome, protein calorie malnutrition and anemia etc. These substances including testosterone esters, methyl testosterone, Fluoxymesterone, Nandrolone decanoate, Trenbolone, Oxandrolone, Stanozolol etc. are routinely used and abused by athletes for their muscle building and performance enhancing effects. The prevalence is more in males, although some agents such as Oxandrolone, due to its milder androgenic properties are routinely abused by female athletes.

- Athletes employ many techniques for abusing AASs in order to extract the best outcome, minimize side effects and evade dope tests, such as cycling, stacking, pyramiding, plateauing etc. Inspite of such measures, multiple side effects manifest as a result of AAS abuse. Side effects in men include shrinking of the testes, lowering of sperm count and infertility, baldness, gynaecomastia, and an increased risk for prostate cancer. Females may typically present with excess facial or body hair, male pattern baldness, hoarsening of voice, decreased breast size, enlarged clitoris, and menstrual disturbances. Long term AAS use may present with hepatic or renal failure, infertility, various cardiac conditions, hypertension, elevated cholesterol levels. Acne is also problematic with steroid abuse. People who abuse anabolic steroids tend to experience more anger that non users, sometimes referred to as "roid-rage". Long term users also tend to show withdrawal symptoms when AAS use is stopped. These include fatigue, restlessness, decreases libido, sleep disturbance, loss of appetite and paranoia etc.

Scope of this chapter

By the end of this chapter, the physician should be able to:

- Screen for, identify and assess individuals with problem use of prescription drugs, including quantity and pattern of use, and complications of such use.
- Identify individuals who are currently on prescription drugs at risk to misuse.
- Identify any underlying psychiatric disorder
- Initiate basic pharmacological intervention
- Carry out basic psychosocial interventions including assessment of support system, expectations, goals and hurdles in recovery.
- Refer to specialist centres in complicated cases, cases requiring inpatient management, or cases with severe psychiatric or medical sequelae.
- Provide education and awareness about the hazards of prescription drug misuse.
- Identify opportunities for harm reduction

Clinical presentation

The clinical presentation of a patient may vary according to the substance used, and whether the patient is in a state of intoxication or withdrawal. Patients with acute benzodiazepine toxicity or overdose may present with drowsiness, confusion, blurred vision, slurred speech, lack of coordination, respiratory depression or even coma. Chronic abuse of benzodiazepines can lead to anxiety, insomnia, anorexia etc. Signs of an opioid overdose include slow, shallow breathing, constricted or pinpoint pupil, urinary retention. Patients in opioid withdrawal state may present with restlessness, tremors, abdominal cramping, muscle aches and autonomic symptoms such as diarrhoea, rhinorrhoea, diaphoresis, lacrimation, shivering, nausea and piloerection etc.

How to diagnose

Screening tools such as ASSIST [4] and CRAFFT [5] can be used in identifying and managing substance use and related problems in a primary care setting.

ICD 10 CRITERIA [6]: A definitive diagnosis can be made depending on the substance (prescription drug) used, if it meets the standard criteria for dependence. A diagnosis of poly-substance use can also be made if multiple substances are used by the patient.

Specific investigations

Various lab investigations can be performed for identifying sedative/hypnotic and opioid use. [7] Disposable one time use urine tests kits are widely available and no technical expertise is required to use them. Technologies using infrared spectroscopy, ion mobility spectroscopy, mass spectroscopy can help in identification of substance use, but may only be available in specialized centres. [8]

Other blood and urine investigations can be performed for identifying sequelae or complications of already present drug use. In case for injectable use, testing for viral markers is important.

Management

Treatment goals include abstinence from use, harm reduction and improvement of occupational and social functioning [9].

The treatment may be divided into different phases:

- An initial phase comprising of detoxification which may last for 2-4 weeks.
- A middle phase where efforts are made to keep the patient drug free and to improve his occupational and social functioning. This may last for 3 to 6 months.
- A late phase where coping strategies are taught to the patient to maintain a drug free healthy lifestyle.

Pharmacological management

The basic principles of management are similar to those discussed in the earlier chapters on opioid use disorders and benzodiazepine dependence. Management can be tailored depending upon the clinical condition of the patient.

Intoxication

Sedatives, specially Benzodiazepines have a potential to cause respiratory depression at high doses. Such patients should be immediately identified, and agents such as Flumazenil can be used in life threatening situations. [10]

Opioid intoxication is characterised by a triad of pinpoint pupil, depressed respiration and coma. Less severe cases may be accompanied by initial euphoria followed by dysphoria, psychomotor agitation or retardation, impaired judgment, apathy, impairment in attention or memory, drowsiness etc. Hallucinations may also be present. An overdose of opioids is an emergency. Intravenous Naloxone (0.4 mg) administration in such cases is both diagnostic and therapeutically lifesaving. [11]

Withdrawal

Sedatives can be tapered down sequentially from the currently used dose, over a period of two to three weeks.

The detoxification process can be carried out using the drug that the patient is already using, or with an equivalent dose of a long acting benzodiazepine such as diazepam or chlordiazepoxide.

Special care should be taken in patients using drugs with shorter half-lives (oxazepam, alprazolam etc.) and the risk for withdrawal seizures should be kept in mind. The guiding principle is to switch from a shorter to a long acting benzodiazepine for management. Special care must be taken in elderly patients dependent of sedatives. [12]

The treatment of opioid withdrawal can be done in three ways:

1. Symptomatic treatment of opioid withdrawal
2. Agonist-assisted detoxification
3. Antagonist-assisted detoxification. [13]

In case of opioid withdrawal, the starting dose of the detoxifying agent is calculated according to the amount of opioid consumed by the patient in the past 24 hours. The doses generally required are 1.2 to 4 mg of buprenorphine initially and tapered off after 3-4 days. [13]

Clonidine can also be used to mitigate withdrawal symptoms. Other supportive treatments can be instituted for diarrhoea and body ache on an as per need basis. [14]

Maintenance

Long term therapy for maintenance can be provided in the form of opioid antagonists such as Naltrexone, although psychological and psychosocial techniques are also important. It is seen that maintenance treatment provides the best time for a person to recover from dependence. [15]

Psychosocial counselling

Psychological interventions should always be provided to them and one should integrate it with pharmacological management for long term positive outcomes. [16]
Various modalities include:

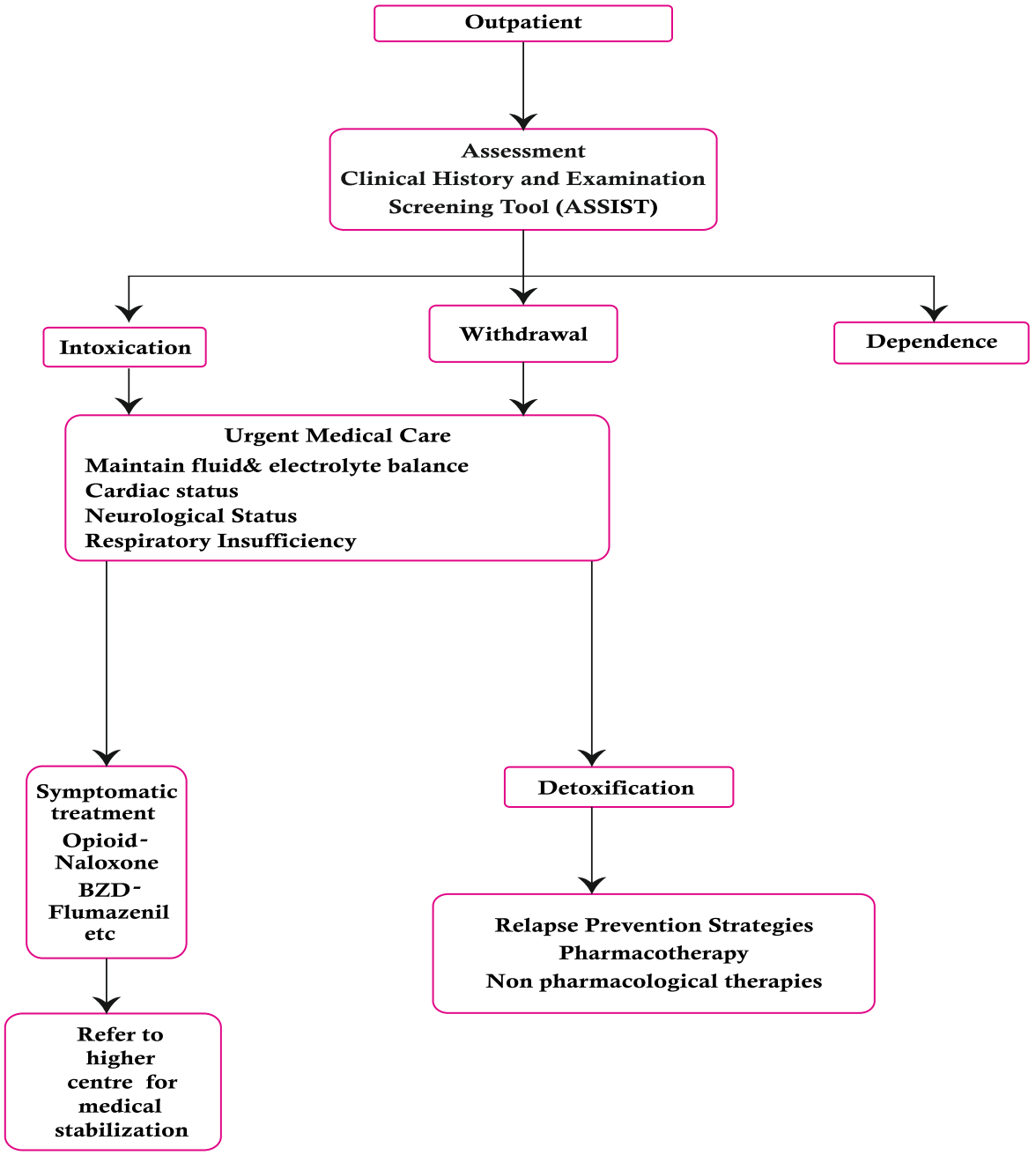
- Motivational Interviewing and Motivational Enhancement.
- Cognitive Behaviour Therapy
- Relapse prevention
- 12 step facilitation therapy
- Therapeutic community
- Educating the Family members

Inpatient management and referral to a specialist

Patients can be considered for inpatient management or referral to specialised centres in the following situations:

- Complicated cases with severe dependence or complicated withdrawal states.
- Comorbid medical or psychiatric illness
- Secondary complications arising out of substance use
- Intravenous drug use and secondary complications arising out of the same (Hepatitis B, C, HIV etc.)
- Risk or harm to self or others
- Special population including children, adolescents or pregnant females.
- Poor support system

Flowchart for the management of prescription drug abuse



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CHAPTER - 8

Poly-substance Use

Introduction

- The term 'polysubstance use' (PSU) is broadly described as consumption of more than one drug of abuse over a defined period, for either therapeutic or recreational purposes without preference to any particular one.[1] These substances may be abused in a sequential, alternating, or concurrent pattern.
- Though systematic data on PSU is lacking, commonly used substances in varying combination include alcohol, tobacco, cannabis, and prescription and non-prescription opioids. Other common concurrently used drugs are benzodiazepines, inhalants, ecstasy (MDMA), amphetamine and cocaine.
- The magnitude of PSU has been found to be ranging from 1% to 28% worldwide using different definitions and criteria.[2]
- An Indian community based study showed a PSU prevalence of 6.3% while a national survey showed prevalence of 22.3% for current use(age range 15-34%).[3]
- A hospital based study has demonstrated a rising trend with increase in prevalence of substance use excluding tobacco from 5.8 percent to 13.9 percent from 1970-2000.[4]
- Various socio-demographic factors associated with PSU include homelessness, low socio-economic status, unemployment, use of other substances of abuse, certain personality factors and presence of co-morbid psychiatric issues like anxiety, depression etc. [5]

Scope of this chapter

By the end of this chapter, the physician should be able to:

- Identify various sub-categories of substances and their similarities and differences[6]
- Identify at risk or vulnerable individuals
- Identify symptoms of acute, long-term use and manifestations of intoxication and withdrawal of various groups of substances.
- Screen for poly-substance use, provide basic medical management and brief psychosocial intervention
- Determine the severity of substance use disorders to help guide treatment
- Refer appropriate cases to nearby specialist centres and provide follow up services in consultation with psychiatrists Provide awareness about various substances which can be abused, their deleterious effects, identifiers of various substance use and available treatment options in different settings like schools, hospitals, employers, workers, groups, relevant government agencies, non-governmental organizations and community volunteers.

Clinical presentation

- Use of multiple substances makes it difficult to ascertain all the drugs of abuse in cases of intoxication and withdrawal, making management complex, more so in primary care settings.
- For details about intoxication, withdrawal, harmful and dependent patterns of use of specific substance, refer to relevant sections.

How To diagnose

- Diagnosing polysubstance abuse/dependence is difficult due to lack of standardized universal criteria. However, the International Classification of Diseases (ICD) 10 provides a specific category (F19) entitled "Mental and behavioural disorders due to multiple drug use and use from other psychoactive substances".
- This is applied only patterns of psychoactive substance taking are chaotic and indiscriminate, or in which the contributions of different drugs are inextricably mixed.[7]
- According to Diagnostic and Statistical Manual of Mental Disorders (DSM) IV TR, polysubstance dependence is use of three or more substances (excluding caffeine and nicotine) with no single substance dominating. This has been removed from the DSM-5.
- Instruments for screening and detailed assessment of individual substances has been described in specific sections.
- Screening tools like CRAFFT and ASSIST [7-9] (Alcohol, Smoking and Substance Involvement Screening Test) help in detecting and managing substance use and related problems in primary and general medical care settings.
- Other tests which can be used for Drug screening are DAST-10 (Drug Abuse Screening Test), CAGE ID (CAGE alcohol screening questionnaire adapted to include drugs) etc.

Special populations

Children and Adolescents

- Children and adolescents from low socio-economic status are at risk of substance use particularly if they are victims of neglect and physical, sexual and emotional abuse. Drug use is used as a way to cope with an unsafe and unpredictable world.
- Presentation: Children with recent change in behaviour, unusual secretiveness in acts and possessions, deterioration in studies or job, impairment in attention or memory, delinquent behaviour, stealing money, use of gateway drugs like tobacco, inhalant, alcohol in addition to sign/symptoms of individual drugs.
- Early identification of risk factors and affected individuals through widespread screening is the mainstay of management.
- Treatment of drug use disorders should be tailored to the unique needs of the adolescents. Screening for and management of violence, child abuse, and risk of suicide also should be done early in treatment.
- Screening of sexually transmitted diseases such HIV, as well as Hepatitis B and C, is an important part of drug treatment.
- Treatment should also include strategies such as: social skills training, vocational training, family-based interventions, sexual health interventions including prevention of unwanted pregnancy and sexually transmitted diseases.
- Treatments should attempt to integrate other areas of social involvement of adolescents such as school, sports, hobbies and recognize the importance of positive peers.[8]

Pregnancy and lactation

- Polysubstance use may pose a unique set of problems for management due to risk to both mother and child.
- In addition to the usual management of substance use in adults, pregnant women may need training and support on issues such as sexual health, contraception, parenting and child care.

- Women and children are more vulnerable to risk of domestic violence and sexual abuse, therefore a liaison with social agencies protecting children and women is helpful.
- Medical management must include screening and management of anaemia, maternal malnutrition, sexually transmitted infections (STIs) including HIV as well adequate antenatal, natal and postnatal care by multidisciplinary team of obstetricians, psychiatrists, physicians and paediatricians. Institutional deliveries in secondary care settings should be strongly encouraged and facilitated. Neonatal care should include high index of suspicion for substance withdrawal in the newborn and its appropriate management.
- Treatment services should be able to accommodate children to allow mothers to receive treatment.[5]

Specific investigations

- An important element in the assessment of polysubstance use clients is access to laboratory testing.
- Laboratory tests include: CBC with differential and platelet count, Serum electrolytes, BUN and creatinine, Liver function tests (GGT, AST, ALT, PT or INR, albumin), Lipid profile, Urinalysis, Pregnancy test (for women of childbearing age), Hepatitis B and C screens
- Toxicology tests for specific drugs of abuse
- In addition, various tests like blood alcohol concentration, screen for other blood borne infection should be done when suspected.[9] Many of these may be available only in specialised centres.

Pharmacotherapy

- Pharmacotherapy of patients with multiple substance use depends upon the combination of substances being used.
- If a particular substance is predominant, management may be given accordingly. However, in cases of doubt referral should be planned.
- It is essential that the physician understand the relationship between various groups of substances that the patient may have abused, probability of cross-tolerance and cross-dependence with one another or having similar mechanism for the development of dependence where a single medication can be used for treatment of withdrawal.
- When patients present with a mixed dependence that crosses drug classes, medication that specifically blocks the withdrawal for each class of suspected abused drug should be started.
- Once stabilized, the patient should be withdrawn from one drug at a time. This tends to prolong the withdrawal process but makes it easier for the patient.[11]
- Intoxication usually requires supportive care with monitoring of vital parameters and hydration should be maintained. Benzodiazepines can be given to manage sleep disturbance, agitation and anxiety for some time, and analgesics for headache or other pains.
- Presence of co-morbid psychiatric symptoms required appropriate management.
- Complications which require specific treatment measures may require referral to a specialist centre.

Psychosocial counselling

- Screening, Brief Interventions, and Referral to Treatment (SBIRT) is an evidence-based practice, which is rapid and cost-effective used to identify, reduce, and prevent drug use disorders, particularly in primary health settings.[8]
- Screening using either the screening instruments discussed above like ASSIST or CRAFFT for patients who are conscious or blood based screening for other patients.
- Psycho-educate patient and family members about nature of the disorder, possible harms and

complications, harm minimization, treatment process and recovery.

- Emphasize on re-entry/being regular at school for school going children and vocational skills otherwise.
- In cases of low to moderate risk of substance use, Brief Intervention (BI) of 5-30 minutes can be provided, using Motivational Interviewing. It aims to identify current or potential problems with substance use and to motivate for changing the substance use behavior.[10]
- The components of effective brief interventions can be summarized in the FRAMES framework: (Feedback, Responsibility, Advice, Menu of options, Empathy, Self-efficacy)
- All women of child bearing age group must receive counselling for contraception as well as access to contraceptive services.

Inpatient management

Under certain circumstances, patients might require short term in-patient management, which include:[8]

- Likelihood of potential complications likely to occur in the days and initial weeks following the cessation of drug use, including the drug withdrawal syndrome, poor general condition due to neglect of oral intake.
- Severe dependence
- Use for a prolonged duration
- Multiple failed abstinent attempts in the past
- Significant health complications
- Absent/minimal family support, and/or presence of familial psychopathology interfering with treatment and care

The immediate management involves detoxification, management of medical complications and establishing rapport. For individual substances, refer to relevant sections.

Thereafter, focus is on treatment of comorbid conditions and psychosocial interventions for the substances in order of the severity of dependence and the nature of harm caused by them.

When to refer to a specialist

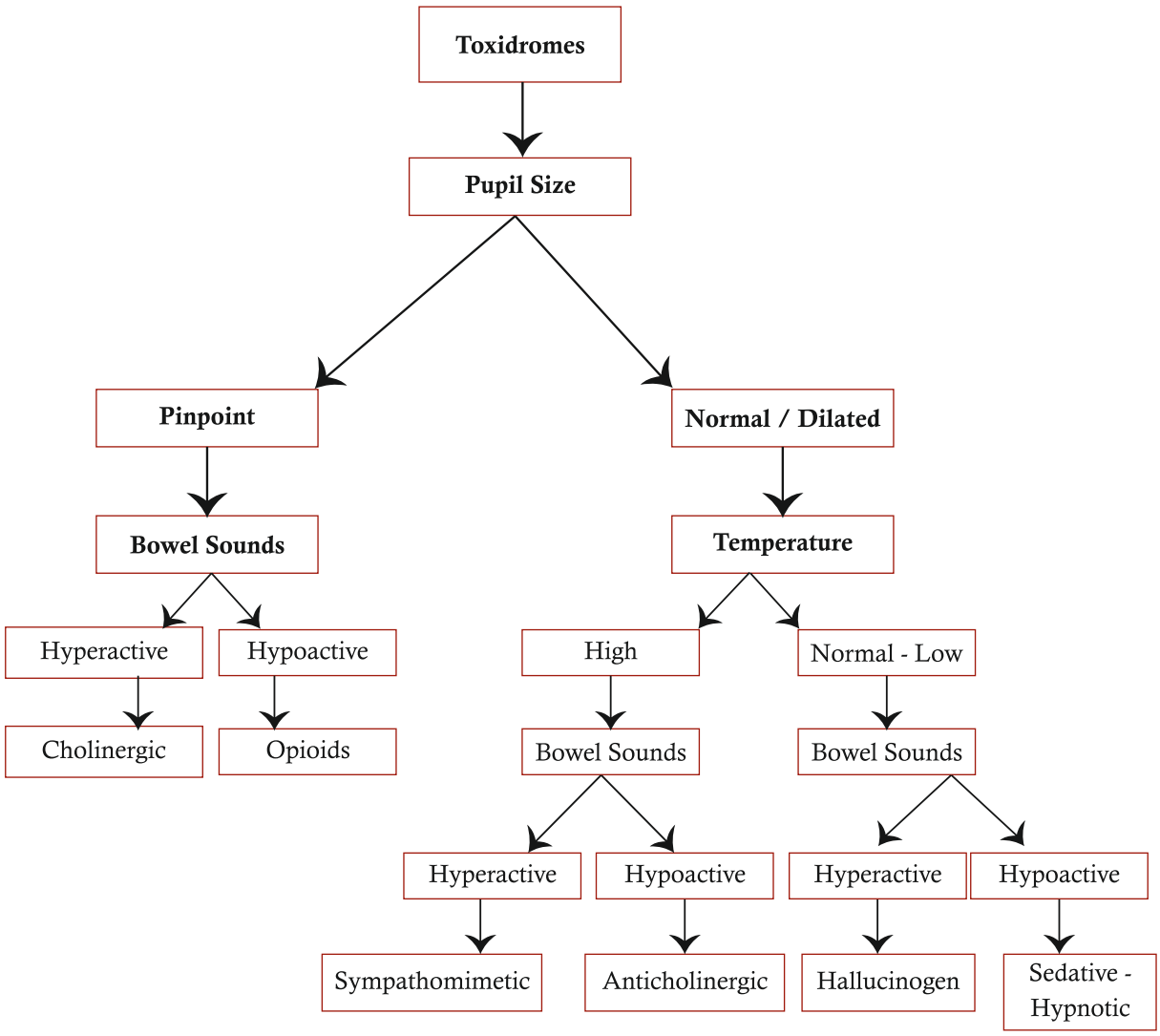
Patient can be referred to higher centres in the following situations:

- Persons having a clinically significant severe or high risk substance use disorder
- Serious co-occurring condition like HIV, Hepatitis B and C, Other STDs.[8]
- Comorbid psychiatric diagnosis
- Elderly, pregnant or lactating females
- Highly disturbed family environment and interpersonal relationships (requiring intensive psychotherapies)
- Failed attempts at brief intervention.

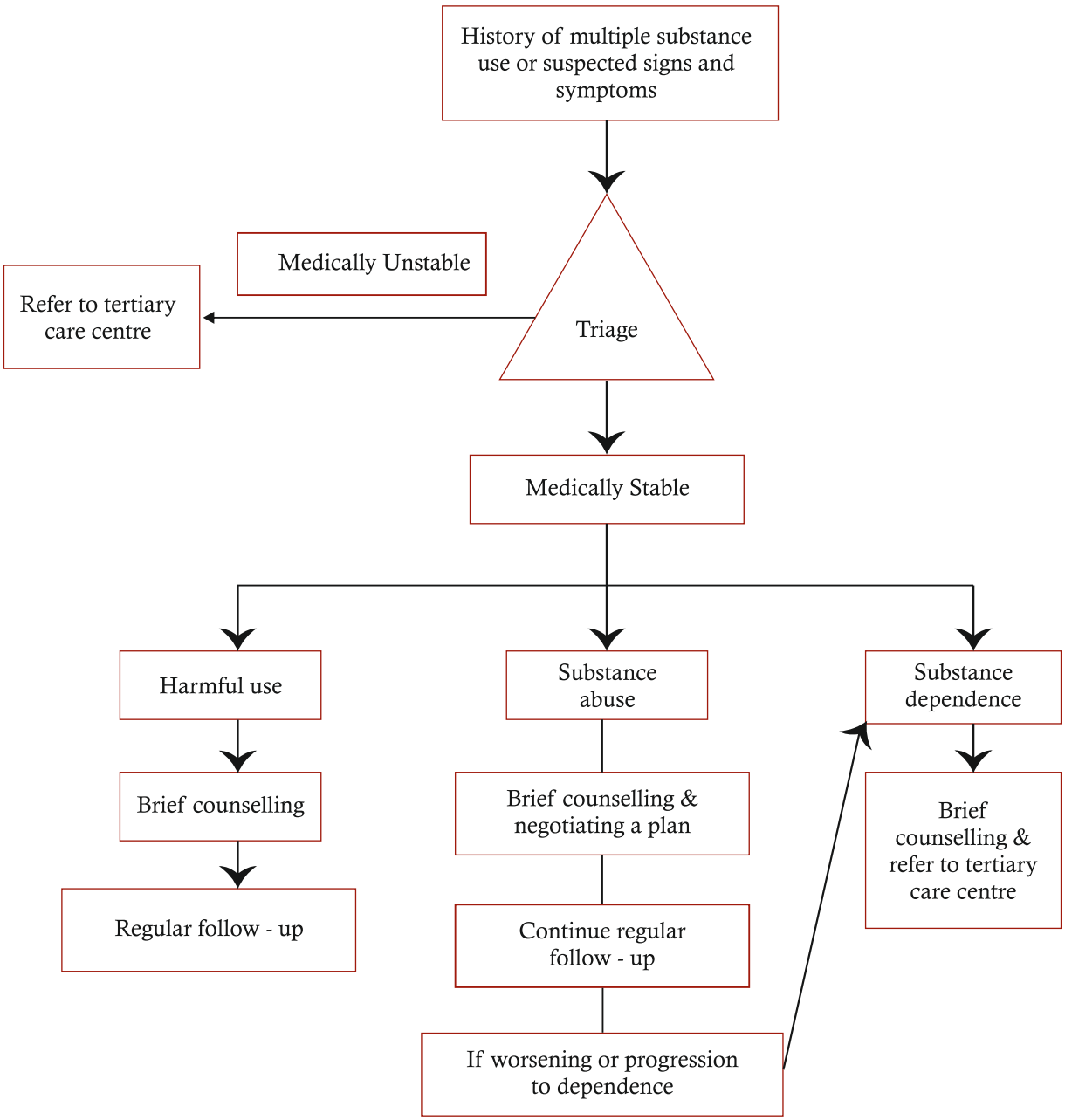
Prevention

Principles followed are similar to those earmarked for individual substances.

Flow chart to assess a patient with suspected intoxication in the context of polysubstance use[12]



Flowchart for the management of polysubstance use[13]



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CHAPTER - 9

Behavioural Addictions

Introduction

- Several behaviours, besides psychoactive substance use, produce short-term rewards. These rewards may lead to persistence of the behaviour despite experiencing adverse consequences, i.e., diminished control over the behaviour. Such behaviours are called behavioural addictions. They are syndromes analogous to substance addiction, characterized by a recurrent pattern of behaviour, in which repetitive engagement ultimately interferes with functioning in several domains of life.[1]
- Such behaviours include pathological gambling, both online and offline; and Internet addiction.
- Behavioural and substance addictions have many similarities in their natural history, phenomenology, and adverse consequences. Both have onset in adolescence and young adulthood, higher rates in younger age groups than among older adults with chronic, relapsing patterns, impaired ability to control or cut down and narrowing repertoire of other pleasurable activities. As in substance use disorders, socio-occupational, financial, legal, familial and marital problems are common in behavioural addictions. Both behavioural and substance addictions show high rates of co-occurrence and increased rates of co-morbid psychiatric disorders.

Scope of this chapter

By the end of this chapter, the physician should be able to:

- Understand the common forms of behavioural addictions and their presentations
- Identify and diagnose behavioural addictions
- Offer basic counselling about behavioural addictions and refer to specialized services
- Create awareness for prevention of behavioural addiction in the community and in the hospital

In the following section, we will briefly discuss gambling disorder and internet addiction, which are the most widely studied behavioural addictions.

Pathological gambling

Gambling is defined as placing something of value at risk in the hope of gaining something of greater value. Pathological gambling is a pattern of gambling that may lead to difficulties in one's life. Gambling can be luck based like lottery, or skill based like Poker.
Most forms of gambling- except for games of 'skill', lotteries, and casinos (in some states only)- are illegal in India (Public Gaming Act India, 1867). The most popular illegal form of gambling in India is betting on outcomes of sports events. [2]

Epidemiology

The analysis of prevalence from 80 separate studies in 30 countries in the last decade put the world wide prevalence of problem gambling as 1.5%. Studies done in India amongst college and high school students have placed the prevalence of problem gambling as high as 7.4%.

Men gamble more frequently and wager larger amounts, begin at an earlier age, and prefer skillbased games. Recreational gamblers tend to be younger and have more frequent reports of gambling associated complications. Risk for problematic gambling is associated with work-related problems, interpersonal violence and substance use.[3]

Presentation

Pathological Gambling involves repeated problematic gambling behaviour that causes significant problems or distress in physical, psychological, financial, legal and socio-occupational domains.

People with pathological gambling often

- Feel pre-occupied with and suffer from emotional impact of ups and downs in their gambling,
- Hide their behaviour, lie to family members and others to cover up and may commit illegal acts, such as theft, embezzlement, and writing bad checks to either fund their addictive behaviour or cope with its consequences
- Feel the need to gamble more in terms of time and/or money to either attain the desired positive feeling or to increase their odds of getting even after a series of losses (chasing one's losses).

Some gamblers seek excitement or action in gambling, others look for escape from stressful life situations.

Diagnosis and screening

To diagnose pathological gambling, persistent and recurrent problematic gambling behaviour leading to clinically significant impairment or distress should occur:

Box 1: ICD - 10 criteria for pathological gambling

Repeated (two or more) episodes of gambling over a period of at least one year.

1. These episodes do not have a profitable outcome for the person, but are continued despite personal distress and interference with personal functioning in daily living.
2. The person describes an intense urge to gamble which is difficult to control, and reports that he or she is unable to stop gambling by an effort of will.
3. The person is preoccupied with thoughts or mental images of the act of gambling or the circumstances surrounding the act.

Problem Gambling Severity Index (self-assessment based on the Canadian Problem Gambling Index)
This is a 9-item self-administered questionnaire, evaluating gambling behaviour in past 12 months. With a maximum score of 27, interpretation of scores is as follows:

Box 2 : Problem gambling severity index

1. When you think of the past 12 months, have you bet more than you could really afford to lose?
2. When you gambled, did you go back another day to try to win back the money you lost?
3. Have you borrowed money or sold anything to get money to gamble?
4. Have you felt that you might have a problem with gambling?
5. Has gambling caused you any health problems, including stress or anxiety?
6. Still thinking about the last 12 months, have you needed to gamble with larger amounts of money to get the same feeling of excitement?
7. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
8. Has your gambling caused any financial problems for you or your household?
9. Have you felt guilty about the way you gamble or what happens when you gamble?

Each question is scored as: 0 Never 1 Sometimes 2 Most of the time 3 Almost always

0 = Non-problem gambling.

1 or 2 = Low level of problems with few or no identified negative consequences.

3 to 7 = Moderate level of problems leading to some negative consequences.

8 or more = Problem gambling with negative consequences and a possible loss of control

Special populations

Adolescents: Adolescents may be more susceptible to becoming pathological gamblers as negative consequences from gambling can arise quickly due to difficulty in accessing funds, leading to criminal activities. Gambling often co-occurs with other risky behaviours and mental health problems, such as drug use and unprotected sex, and if unaddressed may affect healthy adolescent development.

Elderly: Lack of structure and social support, along with inevitable cognitive decline, may make loss of control over gambling behaviour more probable in the elderly.

Prison populations: the risk of the pathological gambler is elevated in incarcerated populations due to limited sources of entertainment and increased probability of interacting with past gamblers as inmates.

Females: Female pathological gamblers describe loneliness and relationship problems as precipitants of their gambling. Notably, women progress more rapidly to problem gambling and experience related complications to a greater extent as compared to men.

Management

Management begins with establishment of diagnosis followed by largely non-pharmacological management. While no medicine has yet been approved for management, pharmacological management has to be used with in those with comorbid psychiatric disorders.

For primary care physicians, identification of gambling disorder or problem gambling in vulnerable clinical population and referral to specialized care is required. Involvement of family members in the treatment process and brief intervention with 1-2 sessions to enhance motivation to reduce or stop the behaviour is desirable. Selfhelp groups like Gambler's Anonymous (GA) and psychotherapy (individual or group sessions) have been helpful in management.

Cases requiring more intensive intervention and those with comorbidity may be referred to specialised services.

Internet addiction

The internet has become an integral part of the contemporary lifestyle as an important tool for education, entertainment, communication and information-sharing. The increasing popularity and frequency of internet use has led to the emergence of internet use related behavioural problems, defined as inability to control one's use of the Internet which leads to negative consequences in daily life.[4]

Epidemiology

The prevalence of Internet Addiction varies from 0.3-0.7% in different populations, though reported more commonly in Asian countries and in males aged 12–20.[5] Prevalence of internet addiction is estimated at 0.7% among Indian adolescents. A study from India estimated the prevalence of internet addiction to be 1.3% [2% males and 0.6% females] in a house to house survey.[6]

The risk factors associated with development of internet addiction are:

- Male gender
- Staying in private accommodation
- Lesser age of first Internet use
- Using mobile for Internet access,
- Higher expenditure on Internet
- Staying online for longer time
- Using Internet for social networking, online videos, and watching website with sexual content

Presentation

Within Internet Addiction, five subtypes have been identified, because the people typically become addicted to a particular application that acts as a trigger for excessive Internet use.

1. Cyber-sexual addiction: individuals are engaged in viewing, downloading and trading online pornography
2. Cyber-relational addiction: people become overly involved in online relationship, more important than real life ones, with marital discord and family instability (chat-rooms, social networks)
3. Net compulsions: gambling, shopping, trading online
4. Information overload: excessive web surfing and information and database search
5. Computer addiction: individuals are overly engaged with pre-programmed games

Symptoms of IA include :

- Preoccupation with Internet activities
- Increasing tolerance
- Development of psychological dependency and withdrawal symptoms
- Inability to reduce internet use

- Internet use to cope with negative moods and reduce stress
- Replacing other activities and relationships with recurrent internet use despite awareness of the deleterious consequences.

Several studies suggest links between overuse of the internet by adolescents and young adults and negative consequences on physical health (headache, neck and back problems, eye pain) and psychological well-being such as depression, anxiety, paranoid ideation, hostility, interpersonal sensitivity, loneliness, lower selfesteem and life satisfaction, disrupted biological functions, obsessive compulsive behaviour and substance use disorders. Excessive Internet use has also been associated with negative academic consequences such as missed classes, lower grades, academic dismissal and occupational dysfunction.

Screening

Diagnosis can be made on history and severity assessed using screening and diagnostic tools. Internet Addiction Test (IAT)- This is a reliable and valid self-administered measure of addictive use of Internet, consisting of 20 items, each scored from 0 to 5 for increasing frequency and a maximum score upto 100 that measures mild, moderate and severe level of Internet Addiction.

Table 1 : Internet Addiction Test (IAT)

	Question	Score					
1	How often do you find that you stay online longer than you intended ?	1	2	3	4	5	0
2	How often do you neglect household chores to spend more time online ?	1	2	3	4	5	0
3	How often do you prefer the excitement of the Internet to intimacy with your partner ?	1	2	3	4	5	0
4	How often do you form new relationships with fellow online users ?	1	2	3	4	5	0
5	How often do others in your life complain to you about the amount of time you spend online ?	1	2	3	4	5	0
6	How often do your grades or school work suffer because of the amount of time you spend online ?	1	2	3	4	5	0
7	How often do you check your e-mail before something else that you need to do ?	1	2	3	4	5	0
8	How often does you job performance or productivity suffer because of the Internet ?	1	2	3	4	5	0
9	How often do you become defensive or secretive when anyone asks you what you do online ?	1	2	3	4	5	0
10	How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet ?	1	2	3	4	5	0
11	How often do you find yourself anticipating when you will go online again ?	1	2	3	4	5	0
12	How often do you fear that life without the internet would be boring, empty and joyless ?	1	2	3	4	5	0
13	How often do you snap, yell, or act annoyed if someone bothers you while you are online ?	1	2	3	4	5	0
14	How often do you lose sleep due to late-night log-ins ?	1	2	3	4	5	0
15	How often do feel preoccupied with the Internet when offline, or fantasize about being online ?	1	2	3	4	5	0
16	How often do find yourself saying "just a few more minutes" when online ?	1	2	3	4	5	0
17	How often do you try to cut down the amount of time you spend online and fail ?	1	2	3	4	5	0
18	How often do you try to hide how long you've been online ?	1	2	3	4	5	0
19	How often do you choose to spend more time online over going out with others ?	1	2	3	4	5	0
20	How often do you feel depressed, moody, or nervous when you are offline, which goes away once you are back online	1	2	3	4	5	0

IAT Score	Inference
20-39 points	Average online user
40-69 points	Experiencing occasional or frequent problems because of internet
70-100 points	Greater level of addiction

Special populations

Children and adolescents: Children experiencing low self-esteem, high pressure to perform in academics, poor adult supervision, low parental involvement, deficient real-life social skills and lack of emotional and psychological support are vulnerable to overuse internet and develop internet addiction.

Management

There is a general consensus that total abstinence from the internet should not be the goal of the interventions and that instead, an abstinence from problematic applications and a controlled and balanced internet usage should be achieved. Treatment consists of combined pharmacological and non-pharmacological approaches.

Pharmacological treatment

As yet, no systematic guideline or treatment algorithm for medication has been established for internet addiction. Various medications have been tried but the mainstay of intervention is non-pharmacological treatment.

Psychosocial management

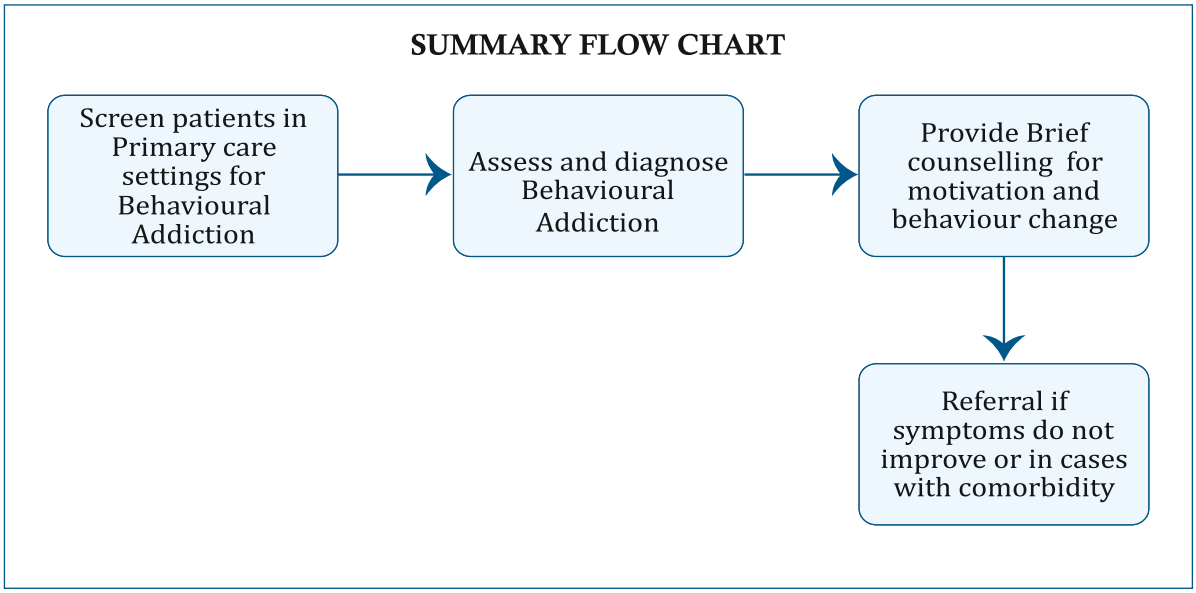
Some treatment strategies which are already known from the cognitive-behavioural approach are as follows:

Box 3 : Cognitive - behavioural therapy for internet addiction

1. Practice opposite time of Internet use (discover patterns of Internet use and disrupt these patterns by suggesting new schedules)
2. Use external stoppers (real events or activities prompting the patient to log off)
3. Set goals (with regard to the amount of time)
4. Abstain from a particular application (that the client is unable to control)
5. Use reminder cards (cues that remind the patient of the costs of IAD and benefits of breaking it)
6. Develop a personal inventory (shows all the activities that the patient used to engage in or can't find the time due to internet addiction)
7. Enter a support group (compensates for a lack of social support)
8. Engage in family therapy (addresses relational problems in the family)

Referral and inpatient care

Cases of behavioural addiction (Gambling disorder or Internet Addiction) requiring more intensive intervention and those with comorbidity may be referred to specialised services.



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CHAPTER - 10

Convergence- Reviewing the resources to enhance effective service utilization

In this chapter, an attempt has been made to describe the various resources available for intervention for substance use disorders in the country. Under the Government of India, treatment of addiction is provided through the Ministry of Health and Family Welfare and the Ministry of Social Justice and Empowerment.

Drug De-Addiction Programme (DDAP)

The Constitution of India, under Article 47, enjoins that the state shall endeavour to bring about prohibition of the consumption of intoxicating drinks and drugs, which are injurious to health. The activities to reduce the drug use related problems in the country could broadly be divided into two categories- supply reduction and demand reduction. The supply reduction which aims at reducing the availability of illicit drugs within the country come under the purview of the NCB under the MHA and the Department of Revenue as the administrator of the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985 and the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances (NDPS) Act,1988. The demand reduction activities focus upon awareness building, treatment and rehabilitation of drug using patients. These activities are run by the Ministry of Social Justice and Empowerment as the nodal Ministry and to some extent by the Ministry of Health and Family Welfare.

The Ministry of Health & Family Welfare operates a Drug De-Addiction Programme (DDAP) by providing financial grants for augmenting post abuse treatment facilities in selected Central Government Hospitals/ Institutions and the Government Hospitals/ Institutions in North-East States. Under this programme, a National Nodal Centre, the "National Drug Dependence Treatment Centre (NDDTC), Ghaziabad (U.P.)", has been established under the All India Institute of Medical Sciences (AIIMS), New Delhi. The other DDTCs receiving regular annual recurring financial assistance under this programme are PGIMER, Chandigarh and NIMHANS, Bangalore. The purpose of these centres is not only to provide de-addiction services and rehabilitation services to the patients but also to conduct research and provide training to medical doctors in the area of drug de-addiction.

Following the recommendations of a Cabinet Sub-Committee, the 'Drug De-addiction Programme (DDAP)' came into force in 1988 with the objectives to provide affordable, easily accessible and evidence-based treatment for all substance use disorders through the government health care facilities and to build the capacities of health care staff in recognition and management of substance use disorders. The Drug Treatment Clinics (DTC) scheme is another strategy for enhancing the provision of treatment services coordinated nationally by the NDDTC, AIIMS and as of now, 27 DTCs are functional in different states in the country.

National Programme for Tobacco Control and Drug Addiction Treatment (NPTCDAT)

Further, the Drug De-addiction Programme (DDAP) and National Programme for Tobacco Control (NTCP) has been renamed with the approval of the 'Note for the Cabinet Committee on Economic Affairs (CCEA)' as "National Program for Tobacco Control and Drug Addiction Treatment (NPTCDAT)" and which is one of the total 8 Tertiary Care Programs for Non-Communicable Diseases and e-Health". The provision of treatment services has been now expanded at: (i) RML Hospital, New Delhi (ii) AIIMS, Bhubneshwar (iii) CIP, Ranchi.

Drug Treatment Clinics

The DDAP has also established the Drug Treatment Clinics (DTC) scheme for enhancing the provision of treatment services throughout the country. Twenty seven government hospitals have obtained financial assistance under this scheme to support human resources, medication, capacity building and monitoring, the respective hospitals providing basic infrastructure, support services and supervision by a nodal officer.

Box 1 : Updated list of Drug Treatment Clinics (DTCs) under NDDTC, AIIMS, New Delhi under the DTC Scheme - DDAP, MOH&FW

Sl. No.	Name of Health Facility	District	State
1	Civil Hospital	Bhatinda	Punjab
2	Civil Hospital	Kapurthala	Punjab
3	Community Clinic DTC Kotla Mubarakpur, NDDTC	New Delhi	New Delhi
4	Government Medical College	Kota (RAJ)	Rajasthan
5	Post Graduate Institute of Medical Sciences	Rohtak (HAR)	Haryana
6	King George Medical College	Lucknow (UP)	Utter Pradesh
7	Regional Institute of Medical Sciences	Imphal (MAN)	Manipur
8	District Hospital	Thoubal (MAN)	Manipur
9	District Hospital	Bishnupur (MAN)	Manipur
10	District Hospital	Churachandpur (MAN)	Manipur
11	King Edward Memorial Hospital	Mumbai (MAH)	Maharashtra
12	Civil Hospital	Osmanabad (MAH)	Maharashtra
13	Peripheral Hosptal	Mumbai (MAH)	Maharashtra
14	Municipal De -Addiction Centre	Mumbai (MAH)	Maharashtra
15	New Civil Hospital	Surat (GUJ)	Gujarat
16	North District Hospital	Mapusa (Goa)	Goa
17	Naga Hospital	Kohima (NL)	Nagaland
18	Institute of Mental Health	Chennai (TN)	Tamil Nadu
19	Medical College	Dibrugarh	Assam
20	Medical College	Dhule (MAH)	Maharashtra
21	Community Health Centre Soibugh	Srinagar	J&K
22	GT Hospital	Mumbai (MAH)	Maharashtra
23	District Hospital	Singtam (Sikkim)	Sikkim
24	Medical College	Agartala (Trip)	Tripura
25	Medical College	Nagpur (MAH)	Maharashtra
26	Mental Hospital	Indore (MP)	Madhya Pradesh
27	Institute of Mental Health	Hyderabad (TEL)	Telangana

National Tobacco Control Programme

The Government has been putting tremendous efforts to discourage the use of tobacco products in order to reduce the prevalence of tobacco use amongst the population. There is an Act called Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA 2003) under which sale of cigarettes or any other tobacco products to and by persons below the age of eighteen years and within 100 yards of educational institutions; promotion/advertisement of cigarettes or any other tobacco products; and smoking in public places are banned. There is a provision to display large specified health warning covering 85% of the principal display area of tobacco product packs along with Quitline number on tobacco packs.

National Tobacco Control Programme (NTCP) was launched in the year 2007-08 to facilitate effective implementation of the Tobacco Control Laws - COTPA 2003 - in the country and to bring about greater awareness about the harmful effects of tobacco use and about the Tobacco Control Laws. NTCP is being implemented through a three-tiered structure i.e., the National Tobacco Control Cell, the State Tobacco Control Cells, and the District Tobacco Control Cells. The National Tobacco Control Programme (NTCP) is being implemented in 632 districts across 36 States/UTs.

National Tobacco Quitline [1800 112 356 (TOLL FREE)] has been established in 2015 initially at the Vallabhai Patel Chest Institute, Delhi, with an aim to provide cost-effective tobacco cessation services to the community. Quitline services have been expanded to regional satellite centres since 2018 and counseling is now available in regional languages at Dr. Bhubaneshwar Borooah Cancer Institute (BBCI), Guwahati; National Institute of Mental Health & Neuro Sciences (NIMHANS), Bangalore; and Tata Memorial Centre (TMC), Mumbai. One of the most important key features of the new set of specified health warnings is the inclusion of telephone Quit-line number (1800-11-2356). This will help in creating awareness among tobacco users, and give them access to counseling services to effect behavior change. It is also likely to lead to an increase in demand for tobacco cessation.

Guidelines for Tobacco Free Educational Institutions [ToFEI] were released with the key objective to provide a fresh momentum to implementation of tobacco control initiatives in educational institutions. These guidelines may be implemented by any educational institution, including schools at all levels, colleges for higher or professional education and universities, both in public and private sector.

The Government of India prohibited electronic-cigarettes and like devices through 'The Prohibition of Electronic Cigarettes (Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage and Advertisement) Act, 2019". This prohibition has been brought with the objective of nipping the problem in the bud. As a responsible government that is sensitive to the health of our people, especially the children and youth, anticipating the danger in case of spread of addiction due to e-cigarettes, decisive pre-emptive action was taken to prevent the problem rather than trying to solve the problem after it acquires unmanageable proportions.

A dedicated portal for National Tobacco Control Programme (www.ntcp.nhp.gov.in) has been launched to provide comprehensive information on tobacco control activities. Under the mCessation which is an initiative for using mobile technology for tobacco cessation. Callers can register for the mCessation programme for assistance to quit tobacco by giving a missed call on 011-22901701 or by logging in to nhp.gov.in/quit-tobacco to receive messages on the benefits of quitting tobacco, harms of continuing as well as assistance in quitting and staying quit.

With persistent efforts of Government of India and State Governments, the prevalence of tobacco use has reduced by six percentage points from 34.6% to 28.6% during the period from 2009-10 to 2016-17. The number of tobacco users has reduced by about 81 lakh (8.1 million). [Source: Global Adult Tobacco Survey (2016-17)].

Integration into other programmes

Preventing and addressing the use of tobacco, alcohol and other drugs have been components of other national programmes and the strengthening of these synergies is very essential for reaching these services to the population, particularly those in disadvantaged situations.

National AIDS Control Programme (NACO)

Under the NACO, the Department of AIDS Control (DAC) is the nodal agency responsible for HIV prevention, care and treatment in India. DAC follows a targeted intervention (TI) approach for HIV prevention in high risk groups, including injecting drug users. The TI approach entails providing interventions specifically aimed at high risk groups through outreach and peer-based delivery. The interventions endorsed in the National AIDS Prevention and Control Policy (NAPCP) 2002 include harm reduction strategies for IDUs (Needle exchange programmes, opioid substitution therapy, anti-retroviral therapy, counselling and testing for HIV, Prevention and treatment for sexually transmitted infections (STIs), condom programme for IDUs and their partners, targeted information, education and communication, prevention, diagnosis and treatment of tuberculosis, prevention, diagnosis and treatment of viral hepatitis.

National Mental Health Programme

The National Mental Health Programme (NMHP) launched in 1982 and expanded in 1996 and thereafter is mainly implemented through the District Mental Health Programme. Basic management of substance use disorders, particularly alcohol is provided under the DMHP.

NPCDCS

As part of the National Programme for the Prevention of Cardiovascular Disease, Diabetes, Cancer and Stroke (NPCDCS), tobacco, alcohol and other drug use are recognised as preventable risk factors for non-communicable diseases (NCDs).

Need for integration in other health programmes and other sectors

Many other health programmes, including the National Tuberculosis Control Programme (which has initiated tobacco cessation support in a pilot manner) require to integrate substance use prevention and cessation support into them. Programmes dealing with the prevention of illnesses from sexually transmission and injecting modes of spread particularly require awareness, identification and management of co-occurring substance use. Health programmes for children, pregnant women and the elderly also need to factor in the direct as well as indirect impact of substance use. Workplace health initiatives also need to focus on prevention and early intervention for SUDs. Outside of the health sector, social welfare, education, employment, development and youth sectors also need to include programmes for prevention

and early intervention, as substance use has an impact on virtually every aspect of the individual, family and society.

Intervention through physicians and other health care providers

In addition to the DTCs, assistance for substance use disorders is likely to be available in general hospital settings, particularly through the Departments of Psychiatry. Many state governments are in the process of strengthening substance use treatment interventions in hospitals as well as in primary care settings. A multi-disciplinary team consisting of doctors, social workers, psychologists, nurses and community health workers is necessary to provide awareness, early recognition, counselling, referral to treatment, aftercare and relapse prevention.

Intervention through justice system and prison administration

The primary drug control legislation is the Narcotics and Psychotropic Substances (NDPS) Act, which seeks to discourage criminalization of people dependent on drugs and encourage treatment seeking.
Under Section 39 of NDPS Act, the courts can divert persons with drug dependence convicted for consumption or an offence involving a small quantity of drugs, to a recognized medical facility for detoxification, instead of sentencing. The court may also defer the sentence and release the offender on a bond on successful completion of treatment.

Ministry of Social Justice and Empowerment

The Ministry of Social Justice and Empowerment is the nodal Ministry for drug demand reduction and has been implementing the Scheme of Prevention of Alcoholism and Substance (Drug) Abuse since 1985-86. The strategy for demand reduction under the MoSJE includes "awareness building and educating people about the ill effects of drug abuse; community based intervention for motivation counselling, identification, treatment and rehabilitation and training of volunteers/service providers and other stakeholders with a view to build up a committed and skilled cadre". Under its scheme, the Ministry provides financial assistance up to 90% to voluntary organizations and other eligible agencies for setting up/running integrated Rehabilitation Centres for Addicts (IRCAs). The Scheme has been revised in 1994,1999, 2008 and 2015. The Scheme additionally supports programmes for Awareness and Preventive Education, Drug Awareness and Counselling Centres (CC), Workplace Prevention Programme (WPP), De-addiction Camps (ACDC), NGO forum for Drug Abuse Prevention, Innovative interventions to strengthen community based rehabilitation, Technical exchange and manpower development programme, surveys, studies, evaluation and research in the area of drug abuse, in addition to supporting the IRCAs.

The MoSJE conducted a National Survey on the Extent, Pattern and Trend of Drug Abuse in 2001 (report published in 2004) and the more recent survey on the Magnitude of Substance Use in India in 2019.

A National Tollfree Drug de-Addiction Helpline has been established since 2015 (1800-11-0031).

The National Institute of Social Defence is the nodal training and research institute which focuses on human resource development in the area of drug abuse prevention.

International agencies

The United Nations Office of Drugs and Crime, through its Regional Office in South-East Asia (UNODC Rosa) has been engaged in providing information on drug cultivation, marketing and use in the region,

trafficking and seizures and supply reduction, drugs and crime; human resource training as well as developing guidelines for counselling and treatment, opioid substitution guidelines, managing drug use in persons living with HIV/AIDS, drug use in prison setting, drug use among women, etc. It supported the MoSJE in the first national survey on drug abuse.

The World Health Organization, both through its South-East Asia Office (WHO SEARO) and Country Office has published manuals for tobacco cessation for medical officers and dentists, as well as nurses and community workers; for prevention and management of alcohol abuse including vulnerable populations affected by disasters; assisting patients who drink in stopping alcohol; managing opioid and non-opioid drug dependence; prevention of drug use in schools; drug use and HIV etc. The WHO also supported the development of guidelines for treatment of alcohol use disorders by solo physicians, as well as in settings of primary, secondary and tertiary care.

Manuals on workplace prevention of substance abuse (International Labour Organization-ILO), drug use prevention and life skills (United Nations International Children's Fund-UNICEF).

Non-governmental agencies (NGOs)

Several NGOs work in substance use disorder treatment and rehabilitation. Noteworthy among them is the TTK Foundation Chennai, Muktangan Mitra, SPYM and other organizations working with street children and several others working in the North-East as well as in different parts of the country. Several training manuals have been developed and training imparted by organisations working in the NGO sector. More recently, research from the public health perspective has been initiated, particularly in the area of alcohol and tobacco by organizations like the Public Health Foundation of India (PHFI) and Sangath.

Professional bodies

Guidelines for the treatment of substance use disorders for physicians including psychosocial intervention are available from professional bodies like the Indian Psychiatric Society. The Indian Dental Association has initiated training in tobacco cessation for dentists.

Digital training

Through the Virtual Knowledge Network-ECHO collaboration, NIMHANS has been offering online training platforms to train psychiatrists, physicians and other health professionals in substance use disorder and evidence-based management through case discussion, didactic presentations and case-vignette based learning. With the formation of the NIMHANS Digital Academy, online diplomas in mental health (with a component of substance use disorder management) as well as basic courses in substance use management are offered to medical officers, psychologists, social workers and nursing professionals.

Networking of resources

To address the huge treatment gap for substance use disorders, effective training of all key stakeholders, from those working in the community, to doctors working in specialised centres in required. There are several resources for different professionals as well as general information on substance use disorders and their consequences which can be used by individuals, organizations and state governments. States and Union Territories should develop a good directory of services available for substance use at different levels so that the public can utilize the facilities effectively.

Appendix

Management of Substance Use Disorders and Behavioural Addictions

Content

This is a reference of guidelines, books, primers, developed by various experts working in academic organizations of India. These are targeted for a different level of health care providers including primary care physicians, specialists, psychologists, social workers, counselors etc. Some are also substance use disorder-specific.

Psychiatrists

1. Treatment of Opioid Dependence using Opioid Agonists (Buprenorphine) with focus on Operational Procedures. Edited by Ambekar A and Mohan A. Indian Psychiatric Society Addictive Disorder Specialty Section 2019
2. Clinical Practice Guidelines on Substance Abuse Disorder in Children and Adolescents. Edited by Gaur N, Gautam M, Singh S, Sarkar S, Raju VV. Indian Psychiatric Society, 2018.
3. Clinical practice guidelines on newer and emerging addictive disorders in India. edited by Basu D, Dalal PK, Balhara YP. Indian Psychiatric Society, 2016.
4. Synopsis of Clinical Practice Guidelines on the Assessment and Management of substance use disorders. Edited by Basu D and Dalal P, New Delhi: Indian Psychiatric Society Specialty Section on Substance Use Disorders, 2015.
5. Clinical Practice Guidelines on the Assessment and Management of substance use disorders. Edited by Basu D and Dalal P, New Delhi: Indian Psychiatric Society Specialty Section on Substance Use Disorders, 2014.

Physicians

1. Substance use Disorders: A Physician Guide. An overview of Substance. Practitioner's Guide Series 6. By Murthy P, Mahadevan J, Chand P. Karnataka Medical Council, 2019.
2. Guidelines to prevent the misuse of prescription Medications Murthy P, Swaroop HS, Chakraborty A, (Eds), NIMHANS, IPS, DIMANS 2016.
3. Reducing Risk Factors for Non-Communicable Diseases in Primary care: Training Manual for Medical Officers. Edited by Murthy P, Sankaran L, Tresa M, Nethravathi K . WHO country Office and Ministry of Health and Family Welfare, 2015.
4. Substance use disorders: Handbook for physicians by Lal R and Pattanayak Raman Deep) National Drug Dependence Treatment Centre, All India Institute of Medical Sciences, New Delhi, 2013.
5. Manual for Long term Pharmacotherapy by Dhawan A, Jhanjee S. National Drug Dependence Treatment Centre All India Institute of Medical Sciences, New Delhi, 2013.

6. Screening and Brief Intervention for Drug use: Resource guide. Edited By Lal R. National Drug Dependence Treatment Centre All India Institute of Medical Sciences, New Delhi, 2013.

7. Psychosocial Interventions for Persons with Substance Abuse: Theory and Practice. Edited by Murthy P, Shanthi Nikketha B. NIMHANS Publication Bangalore, 2007.

Counselors

1. Reducing Risk Factors for Non-Communicable Diseases in Primary care: Training Manual for Counsellor. Edited by Murthy P, Sankaran L, Tresa M, Nethravathi K. WHO country Office and Ministry of Health and Family Welfare, 2015.

2. Relapse Prevention in Alcohol Dependence: My workbook. Edited by Nattala P, Murthy P, Nagarajaiah . NIMHANS Publication Bangalore, 2014.

3. Women partners of men with alcohol dependence: A counselling manual. Tresa Mary, Nethravathi R, Chacko G, Gnaneshwari CD, Murthy P. publication no 94. ISBN81-86443-00-X, NIMHANS Supported by the Indian Council for Medical Research. New Delhi Year is 2014.

4. Relapse Prevention in Alcohol Dependence: A family-based approach. Nattala P, Edited by Murthy P, Nagarajaiah. NIMHANS Publication, Bangalore, 2013.

5. Substance use Disorders: A manual for paramedical workers. Edited by Lal R, Ambekar A. National Drug Dependence Treatment Centre. All India Institute of Medical Sciences, New Delhi, 2013.

6. Primer on how to counsel for Drug Abuse. Basu,D, Subodh . DDAP, Govt of India, 2005.

7. Manuals for Training in Cancer Control Manual for Tobacco Cessation. Directorate General of Health Services, Ministry of Health and Family Welfare, 2005

Community health workers

1. Reducing Risk factors for Non-Communicable Diseases in Primary care: Training Manual for Community Health Workers. Edited by Murthy P, Sankaran L, Tresa M, Nethravathi K. WHO country Office and Ministry of Health and Family Welfare, 2015.

2. Workplace well-being: Integrating psychosocial issues with health. Edited by Murthy P, Sankaran L . NIMHANS publication, 2009.

Tobacco cessation

1. Tobacco dependence treatment guidelines. Directorate General of Health Services. New Delhi: Ministry of Health and Family Welfare, 2011.

2. Helping people quit tobacco: A manual for doctors and dentists. Edited by Murthy P, Murali Mohan BV, Hiremath SS. World Health Organization. 2010.

3. Tobacco cessation: A Manual for nurses, health workers and other health professionals. Edited by Murthy P, World Health Organization 2010.

4. Starting Tobacco Cessation Services. Tobacco Cessation Centre NIMHANS 2009.Tobacco cessation: A manual for nurses, health workers and other health professionals. Edited by Murthy P, World Health Organization 2010.

General (useful for all professions)

Thematic Pamphlets on Substance Use Disorders. Developing Community Drug Rehabilitation and Workplace Prevention Programme. Pratima Murthy (ed) UNODC, 2005.

The areas are:

1. Assessing a Person
2. Recovery
3. Individual counseling
4. The family and drug addiction
5. Family Counseling
6. Aftercare services
7. Crisis intervention
8. Relapse management
9. Prevention in the community