SYNOPSIS
of the Clinical Practice Guidelines on
Substance Use Disorders

Editors
P.K. Dalal
Debasish Basu

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Indian Psychiatric Society
Specialty Section on Substance Use Disorders

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Editorial Office:
Dr. Debasish Basu
Professor of Psychiatry, Drug De-addiction & Treatment Centre,
Department of Psychiatry,
Postgraduate Institute of Medical Education & Research,
Chandigarh-160012, India.
Email: db_sm2002@yahoo.com

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Chair, IPS Publication Committee

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INDIAN PSYCHIATRIC SOCIETY
SPECIALTY SECTION ON SUBSTANCE USE DISORDERS
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AUTHORS

Atul Ambekar
Additional Professor of Psychiatry
National Drug Dependence Treatment Centre
All India Institute of Medical Sciences (AIIMS)
New Delhi 110029
atul.ambekar@gmail.com

Debasish Basu
Professor of Psychiatry
Drug De-addiction & Treatment Centre
Department of Psychiatry
Postgraduate Institute of Medical Education & Research (PGIMER)
Chandigarh 160012
db_sm2002@yahoo.com

Kaustav Chakraborty
Assistant Professor
Department of Psychiatry
College of Medicine and J.N.M. Hospital, Kalyani
West Bengal University of Health Sciences, West Bengal
drkaustav2003@yahoo.co.in

Prabhat Chand
Additional Professor of Psychiatry
Centre for Addiction Medicine
Department of Psychiatry
National Institute of Mental Health and Neuro Sciences (NIMHANS)
Bangalore 560029
prabhatkumarchand@gmail.com

P.K. Dalal
Professor and Head
Department of Psychiatry
King George's Medical University, Lucknow 226003

Amitava Dan
Assistant Professor
Department of Psychiatry
Calcutta National Medical College and Hospital, Kolkata
dramitava_psy@yahoo.co.in

Anju Dhawan
Professor of Psychiatry
National Drug Dependence Treatment Centre
All India Institute of Medical Sciences (AIIMS), New Delhi 110029
dranjudhawan@gmail.com

Abhishek Ghosh
Senior Resident and DM Addiction Psychiatry Candidate
Drug De-addiction & Treatment Centre
Department of Psychiatry
Postgraduate Institute of Medical Education & Research (PGIMER)
Chandigarh 160012
ghoshabhishek12@gmail.com

Shrigopal Goyal
Assistant Professor, Department of Psychiatry
Shiv Kishan Midaram Dammani Goverment Mental Health
Allied & Neuro Sciences (DIMHANS)
S.P. Medical College and Associated Groups Hospitals
Bikaner (Rajasthan)
shrigopalgoyal@gmail.com

Pratima Murthy
Professor of Psychiatry
Centre for Addiction Medicine
Department of Psychiatry
National Institute of Mental Health and Neuro Sciences (NIMHANS)
Bangalore 560029
pratimamurthy@gmail.com

Subodh B.N.
Assistant Professor of Psychiatry
Drug De-addiction & Treatment Centre
Department of Psychiatry
Postgraduate Institute of Medical Education & Research (PGIMER)
Chandigarh 160012
drsubodhbn2002@gmail.com

Kavita Nagpal
Senior Resident
Department of Psychiatry
Institute of Human Behaviour & Allied Sciences (IHBAS)
Delhi 110095
kvnagpal2010@gmail.com

Raman Deep Pattanayak
Assistant Professor of Psychiatry
National Drug Dependence Treatment Centre
All India Institute of Medical Sciences (AIIMS)
New Delhi 110029
drramandeep@gmail.com

Siddharth Sarkar
Assistant Professor
Department of Psychiatry,
Sree Balaji Medical College and Hospital
Chromepet, Chennai
sidsarkar22@gmail.com

Shubh Mohan Singh
Assistant Professor
Department of Psychiatry
Postgraduate Institute of Medical Education & Research (PGIMER)
Chandigarh 160012
shubhmohan@gmail.com

Umamaheswari Vanamoorthy
Senior Resident
Department of Psychiatry
National Institute of Mental Health and Neuro Sciences (NIMHANS)
Bangalore 560029
Uma2k2@gmail.com

PREFACE

It gives me great pleasure to write the Preface of the book "Synopsis of Clinical Practice Guidelines on Substance Use Disorders", published by the Indian Psychiatric Society.

The problem of substance use disorders is too well known to be described in detail. A global problem, it has reached epidemic proportions in India as well, taking its toll on the economic, social and human fabric of our civilization. Although a multi-disciplinary and multi-sectoral issue, substance use disorders are essentially a group of psychiatric disorders, for which expert psychiatric management is needed.

Last year, the IPS Specialty Section on Substance Use Disorders had brought out an entirely new set of comprehensive Clinical Practice Guidelines (CPGs) on the assessment and management of common substance use disorders. The set of eight CPGs (assessment, alcohol, opioids, cannabis, sedative-hypnotics, tobacco, inhalants and dual diagnosis) is a rich and updated source of knowledge and skills. The authors had rigorously collected the evidence, organized and rated them, and combining the evidence with the local situation and context, came up with their recommendations. The book was comprehensive in its width as well as depth of coverage.

However, a need was felt to produce an evidence-based synopsis of the previous exhaustive reference book. This is targeted directly for the practitioners and students, for an easy checking and implementation. This brief "Synopsis" can be seen as a handy companion to the more detailed previous book. Together, these complement each other as a set of resources that should prove useful to all concerned.

I congratulate the IPS Specialty Section on Substance Use Disorders on this well accomplished task. I also thank the Publication Committee of IPS for publishing this useful book with great care. I wish that IPS should come up with more such volumes on various important psychiatric topics in future, setting a healthy and helpful tradition.

Dr. T.V. Asokan
President, Indian Psychiatric Society
January, 2015

MESSAGE FROM HONORARY GENERAL SECRETARY, INDIAN PSYCHIATRIC SOCIETY

It is a matter of pleasure to know that Indian Psychiatric Society is bringing out a useful book on Substance Use Disorders.

Drug addiction is an important psychosocial problem from time immemorial and is found amongst all cultures and civilizations across the world thorough out history. Drug addiction causes immense human distress and unfortunately there is no part of the world that is free from it. Millions of people all over the world are leading very miserable and pathetic lives. The drug abuse is a complex phenomenon with involvement of social, cultural, biological, geographical, historical and economic aspects.

All of us know that there are innumerable varieties of drugs which are abused but most commonly used include alcohol, nicotine, cannabis, inhalants, psychotropics, benzodiazepines and opium related drugs. The availability along with policies is helping the enhanced use in the society. What starts as novelty seeking behavior soon gets converted into unavoidable vice. The unforeseen and unpredictable psychological and social outcomes are devastating.

Alcohol dependence has been showing a rising trend thanks to rapid change in lifestyle behavior. The resulting physical complications are a major concern for health policy planners. Early onset of alcohol use is associated with motor vehicle accidents and long term medical complications. The research indicates that earlier people begin to drink; the more likely they are to experience alcohol dependence within ten years of drinking onset. Earlier drinkers are also more likely to experience chronic relapsing dependence characterized by more and longer episodes. Early onset is also related to antisocial behavior, major depression, and family history of alcoholism. (Hingson R. et al Pediatrics 2001; 108: 739-746).

It is unfortunate that the management of substance abuse is the most challenging in psychiatry. The prevention of relapses is very daunting and requires a multi specialty approach. There are no two opinions with regard to the fact that psychiatrists play a major role in planning and implementation of any program on drug use. It is fittest of things that the experts who have worked all their professional lives in the betterment of drug use victims have come forward to share their experiences.

Indian Psychiatric Society is happy to involve in bringing out the latest developments in the field of substance use disorders and I am sure the handbook will be very useful to experienced clinicians, young post graduates and serious researchers. I thank Dr. P.K. Dalal, Dr. Debasish Basu, Dr. Gautam Saha and Dr. Sandeep Shah in addition to all authors for completing such a daunting task. Of course such a dream would not have been reality but for the support extended by Dr. T.V. Asokan and the EC members.

Long live IPS!

Dr. N.N. Raju
Hony. General Secretary, IPS

FROM THE DESK OF IPS PUBLICATION COMMITTEE

Dear Member,

The landscape of medical education has changed rapidly in recent years and will continue to do so into the future. In addition, the composition of our continuing medical education will continue to change, with increasing numbers and shares of the population coming from communities of color. In this publication we use experimental clinical projection techniques to capture the impact of these changes on the size and ethnic composition of medical education to the members of each state, each zone, and nationally the Indian Psychiatric Society as a whole.

A number of individuals were instrumental in the preparation of this publication. First and foremost among them were authors who played critical roles at several steps along the way to publication. Special thanks to Dr. P.K. Dalal and Dr. Debasish Basu who designed and produced the layout and graphics; who edited the text and helped proof the data; who built the interactive tool providing readers with customizable data and graphics for our Society; and we also like to design in the web environment for the online version of the publication.

We would also like to thank those individuals who gave of their time and expertise in serving on the technicalities over the past few months. Finally, our thanks go to all the senior members for their generous support of the preparation, publication, and dissemination of this edition.

IPS Publication Committee prepares the white paper that formed the foundation of the methodology review component of this work. In short, we hope the future is a brighter one than what we experience here – for all members.

All the authors earn our sincere gratitude for their efforts on this publication.

We thank our President Dr. TV Asokan, Vice-President Dr. Vidyadhar Watve, Hony General Secretary Dr. N.N. Raju, Hony Treasurer Dr. Vinay Kumar, Hony Editor Dr. T.S.S. Rao, and grateful to all Council Members for helping and cooperating us to run the Publication Committee at ease.

Long live I.P.S.

Dr. Gautam Saha
Chairperson, Publication Committee
Indian Psychiatric Society

Dr. Sandeep Shah
Convener, Publication Committee
Indian Psychiatric Society

INDIAN PSYCHIATRIC SOCIETY – SPECIALTY SECTION ON SUBSTANCE USE DISORDERS (IPS-SS-SUD)

SYNOPSIS OF CLINICAL PRACTICE GUIDELINES ON SUBSTANCE USE DISORDERS

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Synopsis of the Clinical Practice Guidelines on Substance Use Disorders: An Overview

P.K. Dalal
Debasish Basu
On behalf of the IPS-SS-SUD

2015

A book was released at the Inauguration Ceremony of the 66th Annual National Conference of the Indian Psychiatric Society (ANCIPS) held in Pune in January 2014. It was an official publication of the Indian Psychiatric Society (IPS), brought out by its Specialty Section on Substance Use Disorders (IPS-SS-SUD). It was named "Clinical Practice Guidelines for the Assessment and Management of Substance Use Disorders" (referred hereafter as the "CPG-SUD book"). The following areas were covered in the CPG-SUD book: assessment of substance use disorders in general; alcohol use disorders; opioid use disorders; cannabis use disorders; sedative-hypnotic use disorders; tobacco use disorders; inhalant use disorders; and dual diagnosis.

The CPG-SUD book was the culmination of intensive year-long efforts of a group of dedicated psychiatrists working in the field of substance use disorders in various reputed academic medical institutes of India. The development, refinement and finalization of these Clinical Practice Guidelines (CPGs) was the result of an arduous, long-drawn and rigorous process following a pre-defined iterative strategy involving progressively widening circles of peer review. The pre-defined strategy for the process of development, refinement and finalization of these CPGs has been mentioned in details in the "Overview" chapter of the CPG-SUD book. To recapitulate briefly, the development of the CPGs were guided by: (a) an extensive review of the relevant literature, including Indian data wherever available in published and retrievable form; (b) pre-existing recent guidelines in this area; (c) an awareness of the local needs and priorities whenever applicable (e.g., the need to focus on smokeless tobacco use in India); (d) need to balance the rigor and extensiveness of data coverage with the pragmatic considerations of condensing and filtering the data for practical use by clinicians; (e) need to rate the category of evidence and the strength of recommendations as per internationally accepted norms; and (f) the Appraisal of Guidelines for Research and Evaluation II (AGREE-II) instrument. The CPGs thus developed were finalized through an iterative process of progressively widening circles of peer review. Ethical issues and potential conflicts of interest were also taken care of, and mentioned explicitly in the "Overview" chapter of the CPG-SUD book.

Since its publication in 2014, the CPG-SUD book has been well received by clinical practitioners, researchers, academicians, and psychiatric students, i.e., by all the target groups this book was meant for. It provided the clinicians with updated and evidence-based guidelines for assessment and management of substance use disorders, and others with a comprehensive compendium of updated knowledge that can be a rich resource for academic purposes of teaching, learning, and research. For wide dissemination, the CPG-SUD book was priced at a no-profit-no-loss low price, often distributed free of cost at conferences, and – by the time this book is released – should be available in a freely downloadable Portable Document Format (PDF) from the IPS website as well.

So far, so good. However, it became quickly apparent that there was a need for a more concise, practice-oriented, easy-to-follow "Synopsis" of the comprehensive CPG-SUD book as well. The CPG-SUD book is 531 pages long, with more than 500 text pages, and literally thousands of references (e.g., the chapter on alcohol use disorders cite 209 references, the chapter on inhalant use disorders cite 171, and the one on opioid use disorders cite 295 references!). There are many issues covered and discussed in that book, which, while extremely valuable for providing a comprehensive coverage of the subject matter, may not be needed immediately for a busy practitioner or a psychiatric student looking for quick tips. Thus, a need was felt for a set of compact, precise, yet evidence- and expertise-based guidelines.

This is the genesis point for this current volume. Easy-to-carry in a pocketbook sized format, and easy-to-use with clear tables, panels, boxes and algorithms, it is a perfect supplementary companion of the comprehensive CPG-SUD book. It synthesizes all the practice-relevant information necessary for the assessment and management of common substance use disorders and dual diagnosis. In order to maintain comparability and consistency with the CPG-SUD book, it contains the same chapters in the same order: assessment of substance use disorders in general; alcohol use disorders; opioid use disorders; cannabis use disorders; sedative-hypnotic use disorders; tobacco use disorders; inhalant use disorders; and dual diagnosis. In keeping with the purported aim and scope of this book, the text of the chapters does not cite any reference (with rare exceptions), but a short list of key references/further reading is provided at the end of each chapter.

Before we conclude this overview, a very important caveat needs to be re-emphasized. As mentioned in the CPG-SUD book, "Like any CPG, along with their potential utility as outlined above, their scope and limitations need to be kept in mind so as to avoid their misuse, and encourage their correct use.... please remember that CPGs are "guidelines", not "mandates" or obligatory "standards" required by law or by an institute (though mandates and standards may later be derived from them as a policy matter). CPGs are meant to inform, assist and "guide" the clinician, not ask them to sacrifice their autonomy of clinical judgment, nor to be oblivious of the individual patient's clinical situation and psychosocial context." (Emphasis added). This caveat is all the more important to keep in mind while using this "Synopsis". Management of SUDs is a complex, multifaceted business involving often difficult decision balancing in the face of different needs and context of the individual patient and after weighing the pros and cons of several competing options. If followed blindly, individual decision making may take a back seat, encouraging blind copy-pasting of general recommendations in a mindless manner that might help the individual patient in question in a blank-shot-in-the-air manner, or, in a worse case scenario, be of no benefit, or, in the worst case scenario, even be harmful. We do not intend this "Synopsis" to

degenerate into an "Easy Recipe Cook Book" or a "Learn-French-in-seven-days" booklet!

With this disclaimer and caveat, however, we believe that this "Synopsis", when properly used along with clinical training in addiction psychiatry, can be a very useful and handy companion to the students, clinicians and even teachers in their day-to-day practice. For the seeker, the CPG-SUD book is always there!

Reference

Basu D, Dalal PK. Clinical Practice Guidelines for the Assessment and Management of Substance Use Disorders: Overview of IPS Guidelines 2014. In, Basu D, Dalal PK (eds). Clinical Practice Guidelines for the Assessment and Management of Substance Use Disorders, New Delhi: Indian Psychiatric Society, 2014; pp. 1-12.

Synopsis of the Clinical Practice Guidelines on Assessment of Substance Use Disorders

Debasish Basu
Kavita Nagpal
On behalf of the IPS-SS-SUD

2015

1. INTRODUCTION

1.1 NEED FOR ASSESSMENT

- Substance use and related disorders are highly prevalent worldwide.
- Meta analysis of studies indicate overall substance use prevalence of 6.9/1000 in Indian population.
- Prevalence is greater in people with mental illness.
- Despite high prevalence it remains under diagnosed.
- Early intervention and management is of paramount importance to reduce associated significant morbidity and mortality.

1.2 PURPOSE OF ASSESSMENT

Assessment needs to be done because

- To screen people for substance use disorders and early intervention.
- For diagnosing substance use disorders and to assess severity and associated co morbidity.
- For assessing motivation, support and available resources so that appropriate intervention can be planned.

1.3 COMMONLY USED SUBSTANCE

ICD 10 encompasses 10 different classes of drugs in substance related disorders and these includes alcohol, opioids, cannabinoids, sedative or hypnotics, cocaine, other stimulants including caffeine, hallucinogens, tobacco, volatile substance and other psychoactive substance. DSM 5 includes similar drugs except that these drugs have been categorized differently. DSM 5 includes similar drugs except that these drugs have been categorized differently.

ICD 10 describes

Harmful use - Pattern of psychoactive substance use that is causes actual physical or mental damage to health

Dependence - 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 that once had greater value. For a definite diagnosis 3 or more of following is required in last one year

- Craving
- Loss of control
- Withdrawal symptoms in the absence of use
- Tolerance

- Salience
- Persistent use despite harm

DSM 5 gives criteria's of substance use disorders

A problematic pattern of substance use leading to significant impairment or distress as manifested by at least two of the followings, occurring within a 12 month period-

- Substance is often taken in larger amounts or over a longer period of time than was intended.
- There is a persistent desire or unsuccessful efforts to cut down or control substance use.
- A great deal of time is spent in activities necessary to obtain substance, use substance or recover from its effects.
- Craving, or a strong desire or urge to use substance.
- Recurrent substance use resulting in failure to fulfill major role obligations at work, school or home.
- Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by effects of substance.
- Important social, occupational or recreational activities are given up or reduced because of substance use.
- Recurrent substance use in situations which are physically hazardous.
- Substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by substance.
- Tolerance
- Withdrawal symptoms in absence of use

2. TYPES OF ASSESSMENT

Clinical assessment remains the mainstay of assessment.

Laboratory tests and assessment instruments are useful to complement clinical assessment.

2.1 CLINICAL ASSESSMENT

2.1.1 Detailed history

Socio demographic details and details of informants

- Chief complaints should be enumerated in chronological order. Onset of symptoms, precipitating factor and course of illness should be assessed. A

systematic inquiry into current and past substance use evaluating various environmental and contextual factors leading to initiation and maintenance of substance. Using DSM 5 and ICD 10 assess whether person fulfills criteria of dependence. Past abstinence attempts with history of past treatment response should be noted in detail. Current motivation for quitting substance should be assessed as per accordance with Prochaska and Diclemente stages. Assess for marital, social, financial, legal and occupational consequences secondary to substance abuse. Screen for co morbid physical illness and psychiatric illness secondary to or independent of substance use. High risk behavior needs special attention in personal history in such patients. Externalizing traits and internalizing traits act as contributing or susceptibility factors in initiation and/or maintenance of substance use and should be explored carefully.

2.1.2 Physical Examination

Certain specific features which aid in the diagnosis are

Sl. No.	Condition	Signs and symptoms
1.	**Alcohol withdrawal**	Anxiety, tremors, nausea, vomiting, agitation, paroxysmal sweats, tactile disturbances, visual disturbances, auditory disturbances, clouding of consciousness, headache
2.	**Opioid withdrawal**	Muscle aches, lacrimation, sweating, rhinorrhoea, nausea, vomiting, diarrhea, increased blood pressure, tachycardia, yawning, insomnia or anxiety, restlessness or irritability, piloerection, increased sensitivity to pain and craving for opioids.
3.	**Myriad systemic effects of excessive alcohol use**	Delirium, seizures, signs of liver enlargement or failure, ascites, anemia, thrombocytopenia, bleeding, myopathy, cardiomyopathy, nystagmus, lateral nerve palsy, peripheral neuritis and dermatitis.
4.	**Effects of marijuana or cocaine smoking.**	Thrombosed veins and track marks due to repeated injectable drug use and chronic sinus/nasal problems, worsening of bronchitis
5.	**Other Systemic infections**	Cellulites, sexually transmitted disease (ex HIV, hepatitis B and C), tuberculosis, bacterial endocarditis.

2.1.3 Mental status examination

Various components which should be assessed are

Sl. No.	Condition	Signs and symptoms
1.	**General appearance and behaviour**	Level of consciousness and orientation – Provides valuable clue regarding substance withdrawal/intoxication General demeanour, Eye to eye contact Abnormal movements ex tremers can be seen in substance withdrawal
2.	**Psychomotor activity**	Can be affected in substance related delirium (ex hypoactive or hyperactive) or substance related mood disorder etc
3.	**Speech**	Spontaneity, tone, tempo and volume of speech, relevance, coherence, reaction time and prosody
4.	**Thought**	In **form and stream** Assess for circumstantiality, tangentiality, thought block, incoherence, verbigeration, word salad, neologism and perseveration **Content** Referential/Persecutory/Grandiose/Hypochondrical ideation/delusions,depressive cognitions, death wishes and suicidal ideation. **Possession** Assess for thought alienation, obsession and compulsions.
5.	**Mood**	Subjective and objective component, range, reactivity, congruence to thought process and appropriateness to environment
6.	**Perception**	**Sensory distortions** - under substance intoxication **Sensory deceptions** - can occur under both substance intoxication and withdrawal.
7.	**Cognitive function assessment**	Includes assessment of orientation, attention and concentration, memory, judgment and abstraction. It is of paramount importance especially when substance related cognitive impairment is suspected ex during intoxication, Korskoff psychosis or substance induced dementia

As per Prochaska and DiClemente's classification the stages of motivation are precontemplation, contemplation, preparation, action and relapse.

Patient's motivation can also be assessed as

Sl. No.	Condition	Signs and symptoms
1.	**Poor**	Failure to perceive any problems with substance use and/or denying any substance-related functional impairment and/or refusing professional help
2.	**Superficial**	Admits that there are substance problem but ascribes it to external or rationalizing internal problem
3.	**Fair/good**	Having an insight about the basic nature of the problem as 'dependence' and/or appreciating the extent and severity of substance related complications and ability to link them with substance as the causative factor, and/or feeling the need of treatment for the dependence itself.

- A direct, empathic, non judgmental and compassionate attitude is the key to keep patient in treatment loop and improve overall treatment outcome.

2.2 LABORATORY ASSESSMENT

- Is not mandatory for diagnosing patients with substance use and related disorders
- It can complement clinical assessment in diagnosis and to assess effects of substance on patient's body

2.2.1 Breath alcohol concentration

- Easy, non invasive method for quantifying alcohol concentration using breath analyser in end expiratory air.
- It provides good insight into acute body burden of alcohol.
- Is insensitive to differentiate between acute or chronic consumption of alcohol, binge drinking or long term alcohol abuse.

2.2.2 Liver function test

- Deranged liver function tests are neither specific nor sensitive to alcohol abuse
- However are commonly affected during heavy drinking and is a pertinent factor determining treatment options.

- Enzyme gamma glutamyl transferase - a non specific indicator of liver damage as it is also found in blood and brain. Its level in blood rises before elevation in liver enzymes. It has a half life of 14 – 26 days.
- Carbohydrate deficiency transferrin (CDT) levels are related specifically to amount of alcohol consumed and alcohol metabolism. CDT has half life of approx 15 days.
- Combination of CDT with enzyme gamma glutamyl transferase may further increase sensitivity without reducing specificity.

2.2.3 Mean Corpuscular Volume (MCV)

- It is one of the indirect biomarker of alcohol use like liver function test and detects the effects of alcohol on organ system or body biochemistry.
- It takes 2 to 4 months to normalize.

2.2.4 Carbon monoxide (CO)

- The most convenient and economical measure of nicotine intake
- With a relative short half life of 4 – 5 hours, for the most accurate readings its levels are best measured during end of the day.

2.2.5 Nicotine and Cotinine

- Nicotine levels are measured in plasma about 6 – 7 hours after smoking when it tends to plateau.
- Cotinine has t1/2 is generally a preferred measure of nicotine exposure.
- Salivary cotinine is the most accurate index of nicotine but is expensive and involves complicated laboratory assessment.

2.2.6 Urine analysis

- Detects the presence or absence of drugs and its specific metabolites.
- May not indicate dosage or time of drug administration or extent of any drug effect on the body.
- Through semi quantitative urine analysis concentration of substance in urine can be monitored over time.

2.3 INSTRUMENT BASED ASSESSMENT

- It has the advantage of being non invasive and non expensive.
- Some of these can be rapidly applied and are self administered or require minimal to no special training for administration.
- Limiting factor being that information in such questionnaires can be easily feigned and depends on coherent thought process and overall mental status and intact insight.

Various assessment questionnaires for alcohol, nicotine and other drugs are mentioned below

2.3.1 Assessment of alcohol use

Sl. No.	Condition	Brief description
1.	**AUDIT** (Alcohol Use Disorders Identification Test)	Comprehensive 10 item brief screening instrument. Provides information on alcohol hazardous, harmful use, abuse and dependence.
2.	**MAST** (Michigan Alcoholism Screening Test)	24 item screening instrument designed to identify and access alcohol abuse and dependence. Shortened 13 item and 10 item versions are available
3.	**CAGE**	4 item screening instrument. Particularly useful in geriatric population and can be easily used in primary health settings
4.	**T-ACE**	Screening instrument developed to identify at risk drinking in pregnant women
5.	**TWEAK**	Screening instrument developed to identify at risk drinking in pregnant women
6.	**SADQ – C** (Severity of Alcohol Dependence Questionnaire)	20 item scale designed to measure severity of alcohol dependence. Has five subscales.
7.	**SADD** (Short Alcohol Dependence Data Questionnaire)	15 item self report questionnaire used to measure the severity of alcohol dependence.
8.	**ADS** (Alcohol Dependence Scale)	25 item self-report questionnaire useful to measure severity of alcohol dependence It is also a useful instrument to measure alcohol dependence in women
9.	**ASI** (Addiction Severity Index)	155-item multidimensional structured interview for assessing alcohol and drug dependence. Assesses frequency of use without addressing quantity of use. Useful instrument to assess alcohol abuse Vs dependence in women also.
10.	**CDP** (Comprehensive Drinker Profile)	88 item structured instrument useful for the assessment and treatment of alcohol problems

2.3.2 Assessment of nicotine use

Sl. No.	Condition	Brief description
1.	**RTQ** (Revised Fagerström Tolerance Questionnaire)	10 item questionnaire designed to measure the severity of nicotine dependence.
2.	**FTND** (Fagerström Test for Nicotine Dependence)	Consists of six items from the RTQ. It assesses the severity of nicotine dependence, tolerance and withdrawal

2.3.3 Assessment of other drug use

Sl. No.	Condition	Brief description
1.	**DAST** (Drug Abuse Screening Test)	20 item screening instrument designed to identify individuals with drug abuse problems excluding alcohol) in past 12 months.
2.	**OTI** (Opiate Treatment Index)	Structured instrument which provides comprehensive measure of drug misuse. It measures outcome in six domains
3.	**SODQ** (Severity of Opiate Dependence Scale)	5 section questionnaire which assesses opiate dependence. It is useful to assess pattern and quantity of drug use and various other aspects of dependence.
4.	**BDEPQ** (Benzodiazepine Dependence Questionnaire)	30 item questionnaire for measuring dependence on benzodiazepines, sedatives and hypnotics.
5.	**LDQ** (Leeds Dependence Questionnaire)	10-item, multiple choice self completion questionnaire which is used most sensitive to detect psychological dependence.
6.	**SDS** (Severity of Dependence Scale)	5 item questionnaires used to measure the degree of dependence on a variety of drugs. It focuses on psychological aspects of dependence.
7.	**SDSS** (Substance Dependence Severity Scale)	Semi-structured clinical interview designed to assess dependence on a variety of substances over past one month
7.	**SDSS** (Substance Dependence Severity Scale)	Semi-structured clinical interview designed to assess dependence on a variety of substances over past one month

3. SPECIAL GROUP – CHILDREN AND ADOLESCENT

- Average age at first use is around 12 to 14 years

- Tobacco, alcohol, cannabis and inhalants are commonly used substances in adolescents.
- Although adolescents typically drink less than adults, they tend to engage more in binge drinking behavior and hence are more likely to experience acute effects of alcohol in the form of intoxication and hangover rather than more chronic effects.
- Physiological dependence symptoms, e.g. withdrawal and tolerance are less likely to be present in adolescents.
- AUDIT has been shown to be superior to other instruments for assessing alcohol problems in adolescents.

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Synopsis of the Clinical Practice Guidelines on Management of Alcohol Use Disorders

Subodh B.N.
Umamaheswari V.
On behalf of the IPS-SS-SUD

2015

INTRODUCTION

- Globally alcohol dependence ranks 5th and 3rd in the list of preventable cause of morbidity and mortality

EPIDEMIOLOGY

- Alcohol use disorders show an increased trend in developing countries like India
- National Household survey: Alcohol (21.4%) was the primary substance use apart from tobacco. Among them 17-26% of alcohol users qualified to ICD-10 diagnosis of dependence translating into an average prevalence of about 4%
- In India currently the most important and significant changes seen in alcohol use is
  - Decrease in age of initiation into alcohol,
  - Increase in female alcohol use and
  - Signature pattern of alcohol intake - take alcohol regularly (mostly solitarily) and heavily to the point of intoxication.

CONSEQUENCES OF ALCOHOL DEPENDENCE SYNDROME

- Medical
- Vocational
- Legal
- Financial
- Family (including Marital)
- Social

MAJOR CONCERNS FOR CURRENT MANAGEMENT OF ALCOHOL USE DISORDERS IN INDIA

- Low awareness level
- Beliefs about alcoholism
- Lack of trained personnel
- Lack of community resources
- Inadequate access to health care

REVIEW OF TREATMENT MODALITIES

GENERAL ISSUES

- Alcohol Dependence Syndrome (ADS) is a chronic relapsing and recurring condition - requires a continuous and prolonged comprehensive multipronged care over long period of time.
- An integrated Bio-psychosocial approach to care is needed to address several aspects of treatment

- An active collaboration with the family while planning and delivering treatment is required.
- Management of ADS should be sensitive to the needs and empirically titrated to the patient's response and progress.

TREATMENT AIMS/GOALS

The goals of treatment vary according to time frame, across individual patients and can be revised from time to time.Main goal of treatment is to maintain abstinence and if not possible decrease the frequency and severity of relapses and maximize functioning in between.

- Promote complete abstinence
- Stabilize acute medical and psychiatric conditions as needed
- Increase motivation for recovery
- Initiate treatment for chronic medical and psychiatric conditions as needed
- Enhance coping and relapse prevention skills
- Improve occupational functioning, social support and assist in integrating to society as needed
- Promote maintenance of recovery through ongoing participation in structured treatment or self-help groups

SHORT TERM GOALS	LONG TERM GOALS
1. Manage Intoxication	1. Relapse Prevention
2. Manage withdrawal	2. Maintain Abstinence
3. Motivation Enhancement	3. Occupational rehabilitation
4. Treat acute medical sequel	4. Social reintegration
5. Crisis Intervention	5. Improve Quality of Life

- **ASSESSMENT OF ALCOHOL USE DISORDERS**
- Assessment will help in diagnosing, establishing rapport, motivating the person and in formulating the plan of the management.
- The goal of assessment also varies in different phases of the treatment.
  - During the first contact it is to establish rapport, diagnosis and plan of management
  - During intervention it is monitoring the progress and assessing abstinence.
- The goal also depends on the context, motivation of the client and cooperativeness of the client.
  - If the client is uncooperative the aim of assessment is to retain the client in the treatment. During this time the information can be collected in pieces and information can be added when patient is co-operative.

CLINICAL HISTORY	PHYSICAL EXAMINATION	INSTRUMENTS	INVESTIGATIONS
Substance related factors - age of initiation, frequency, amount, tolerance, craving, withdrawal symptoms, salience, last dose, motivation, consequences of substance use etc., History of other substance use, *Physical and psychiatric co-morbidity* if any, *Abstinent related factors* - past abstinence, duration, reasons for relapse, past treatment/s, methods used for controlling craving etc., *High risk behaviours*, Presence of any externalizing disorders, *Family history* of substance abuse, and psychiatric illness, *Assessing social support*, current living arrangements and *reasons for current visit*	Look for signs of intoxication, withdrawal signs, evidence of physical damage, assess for psychopathology	CAGE, ASSIST, CIWA - Ar etc.	Confirmation of alcohol, LFT, Hemogram, GGT, Serum B12, USG Abdomen, HIV, VDRL (high risk cases) ECG (> 40yrs) Neuropsychological test

MANAGEMENT OF ALCOHOL INTOXICATION		
GOAL To relieve patient's discomfort, and prevent the occurrence of more serious symptoms		
	ETHANOL TOXICITY	**METHANOL TOXICITY**
DIAGNOSIS	• Diagnosis as per ICD-10 or DSM 5 • The signs and symptoms include slurred speech, lack of coordination, unsteadiness of gait, impairment in attention and concentration and • In severe cases coma and stupor.	• **Common symptoms are visual disturbances and abdominal pain** • **Neurological abnormalities, Kussmaul breathing, impaired cardiac function and hypotension**
ASSESSMENT	Clinical Assessment which includes general assessment along with physical status, mental status, substance use history and associated consequences	

	ETHANOL TOXICITY	METHANOL TOXICITY
TREATMENT	◆ If breath analysers are available the BAC can be measured ◆ Acute effects - generally subside with time and do not warrant any specific treatment ◆ Pharmacological treatment - when presented with respiratory depression and recent use of other substance/s ◆ General measures like reassurance, and maintain in a safe and monitored environment to decrease external stimulation and to provide orientation as necessary ◆ Maintain adequate hydration and nutrition ◆ Monitor withdrawal state - past history of complicated withdrawal, and prolonged heavy drinking	◆ Gastric lavage, induced emesis or use of activated Charcoal within 30-60 min of intake ◆ Fomepizole (not available in India) ◆ Ethanol (never approved) ◆ Dialysis if necessary ◆ Giving ethylene glycol

MANAGEMENT OF ALCOHOL WITHDRAWAL AND DETOXIFICATION

WITHDRAWAL STATE

The factors which predict the severity of a withdrawal syndrome

- Time elapsed since last use
- Concomitant use of other substance use
- The presence or absence of concurrent general medical or psychiatric disorders, and
- Past complicated withdrawal syndromes

SIMPLE WITHDRAWAL	COMPLICATED WITHDRAWAL
◆ Starts after 6-48 hrs after cessation or reduction in alcohol use ◆ Symptoms suggestive of GI distress, anxiety, irritability, elevated blood pressure, tachycardia and autonomic hyperactivity ◆ Symptoms intensify in initial period and diminish over 24-48 hrs ◆ Symptoms would be normally abating over duration of 5-7 days.	**WITHDRAWAL SEIZURES (RUM FITS)** ◆ Starts within 12-72 hrs of cessation of prolonged ingestion of alcohol ◆ mostly generalized tonic clonic seizure ◆ majority (60%) have multiple seizure but only 3% progress to status epilepticus ◆ Around 30-40% progress to **DELIRIUM TREMENS**

COMPLICATED WITHDRAWAL (DELIRIUM TREMENS)

- Medical emergency : occurs in 5% of Alcohol dependent syndrome patients
- Begins after 2-5 days of sudden reduction or stoppage of alcohol
- May also triggered by infection, illness, head injury
- Clinical Features: Usual withdrawal symptoms PLUS
  - Coarse tremors of the limbs and whole body
  - Reduced level of consciousness, disorientation, impaired recent memory, disruption in sleep wake cycle, transient hallucinations or delusions, with severe agitation
  - Fluctuation and evening worsening of symptoms
  - In addition: ataxia, mild pyrexia, autonomic disturbance
- No specific clinical findings are diagnostic .
- Mortality: 20-50% without treatment and 5-10% with treatment
- Complications include dehydration, arrhythmias, hypotension, renal failure and pneumonia

TREATMENT GOALS FOR WITHDRAWAL STATE

- To relieve patient's discomfort, prevent the occurrence of more serious symptoms, and forestall cumulative effects that might worsen future withdrawal.
- To utilise the withdrawal treatment opportunity to engage patients in long-term management.

TREATMENT REGIMENS FOR ALCOHOL WITHDRAWAL

- Pharmacological agents are treatment of choice in alcohol withdrawal
- Pharmacological agents are directed towards reducing CNS hyper excitability and restore homeostasis
- The ideal pharmacological agent should be effective in relieving the symptoms of alcohol withdrawal and also should prevent alcohol withdrawal seizures and delirium
- It should be safe in overdose with benign side effect profile, less drug-drug interaction, tolerability and suppress drinking during and after alcohol withdrawal

TREATMENT SETTINGS

- Majority in outpatient settings
- Inpatient care is needed in
  1. Confusion or has hallucination
  2. Previous H/O complicated withdrawal
  3. Epilepsy/ H/o fits

4. Malnourished
5. Severe vomiting/ diarrhoea
6. Suicidal risk
7. Severe dependence coupled with unwillingness to be seen daily
8. Previous failed home assisted withdrawal
9. Has acute physical or psychiatric illness
10. Has multiple substance misuse
11. Unsupportive home environment

MANAGEMENT OF SIMPLE WITHDRAWAL

ASSESSMENT

Routine assessment with particular emphasis placed on

- Time elapsed since last use,
- Concomitant use of other substance use,
- The presence or absence of concurrent general medical or psychiatric disorders
- Past complicated withdrawal syndromes.

BENZODIAZEPINES (BZD)

- Used in withdrawal syndrome due to cross tolerance with alcohol
- Several meta-analyses and systematic reviews have consistently shown that BZD are better than placebo in reducing the severity of withdrawal, prevention of delirium and withdrawal seizures and thereby leading on to higher success rate of detoxification and entering into long term programmes
- All BZD (short and long acting) are equally effective in management of the simple alcohol withdrawal state
- Both short acting and long acting Benzodiazepines are effective in primary and secondary seizure prevention
- Long acting BZD are better in prevention of seizures and delirium tremens
- Short acting BZD (Oxazepam and Lorazepam) are preferred in liver damage, elderly and in cognitive impairment
- Dosing pattern - fixed dose regimens for BZD are recommended for routine use with symptom-triggered dosing reserved for use only with adequate monitoring.

ANTICONVULSANTS

- Used as they reduce glutamate overactivity and risk of brain toxicity
- Insufficient evidence for use of anticonvulsants
- Anticonvulsants have limited side effects and they are effective for some symptoms such as seizures

- Prophylactic use of anticonvulsants is not recommended except in cases of co-occurring seizure disorder and alcohol use

BACLOFEN

- Selective GABA-B agonist
- Evidence is insufficient for its use in alcohol withdrawal

ACAMPROSATE

- NMDA antagonist and GABA-A agonist
- The evidence for the use of acamprosate in alcohol withdrawal is confusing. Some trials have shown that when given along with Benzodiazepines during withdrawal they improved outcome, whereas some trials have shown that they indeed worsen the outcome when given during the beginning of detoxification

OTHERS

- Propranolol - bblocker
- Clonidine - a2 agonist
- Supplementation on D-Phenyl-alanine, L glutamine, L-5 hydroxytryptophan
- Limited evidence in withdrawal stage

MANAGEMENT OF COMPLICATED WITHDRAWAL

ALCOHOL WITHDRAWAL SEIZURES

- Benzodiazepines reduce withdrawal severity and the incidence of seizures and delirum
- Both short acting (Lorazepam) and Long acting Benzodiazepines (Diazepam). Long acting Benzodiazepines are effective when compared to short acting Benzodiazepines
- Carbamazepine (insufficient evidence)

MANAGEMENT OF DELIRIUM TREMENS

- **GENERAL MEASURES**
  - In patient care for all patients
  - Maintain water and electrolyte balance
  - Correct metabolic disturbance, nutritional supplement
  - Close supervision
  - Appropriate medications
  - Safe and protective environment
- **SPECIFIC MEASURES**
  - Benzodiazepines are more effective than neuroleptics in reducing mortality in alcohol withdrawal delirium

- Heavy doses of benzodiazepines are required
- Insufficient evidence - for use of Baclofen, Ethyl alcohol, Lamotrigine and magnesium

ALCOHOL RELATED BRAIN DISORDERS

WERNICKE'S ENCEPHALOPATHY (WE)

- Acute neuropsychiatric condition due to insufficient supply of Thiamine to the brain
- Diagnosis - dietary deficiency + 2 of the classic triad (Ophthalmoplegia, Ataxia, & Confusion)
- Presumptive diagnosis - if ophthalmoplegia, ataxia, acute confusion, memory disturbance, unexplained hypotension, hypothermia, coma, or unconsciousness in ADS
- High risk cases (suspicion needed) - using > 15 units /day for a month or more, evidence of recent weight loss/ vomiting / diarrhoea / malnutrition / peripheral neuropathy/chronic ill health

MANAGEMENT

- Medical emergency
- For all suspected and high risk individuals – parental thiamine 100 mg i.m or oral thiamine before glucose.
- In India –
  - All suspected and high risk cases parental thiamine to be given for 2 weeks + oral thiamine of 100-200 mg /day for a minimum period of 3 months
  - All cases of ADS it is recommended to start oral thiamine for minimum of three months.

KORSAKOFF'S SYNDROME

- Undiagnosed or inadequately treated Wernicke's Encephalopathy proceed to Korsakoff's syndrome
- Diagnosis - Severe anterograde amnesia, retrograde amnesia and cognitive deficits

MANAGEMENT

- Best treatment is timely recognition of WE & appropriate intervention and treatment
- 200 mg thrice daily thiamine before carbohydrate in high risk cases
- Once cognitive impairment or Korsakoff's syndrome is evident (after thiamine replacement) - No additional pharmacotherapy to ameliorate cognitive impairment has been shown to be effective

MANAGEMENT OF ALCOHOL DEPENDENCE

PHARMACOLOGICAL MANAGEMENT

GOALS

- Maintain complete abstinence
- If not possible:
  - Decrease the frequency and severity of relapses
  - Maximize functioning in between
  - Improve the quality of life

DISULFIRAM

- First pharmacological agent to be approved by FDA in 1951
- Aversive agent. Only drug used for complete abstinence from alcohol dependence
- Irreversible inhibitor of Aldehyde dehydogenase - causes ↑ in the level of acetaldehyde if alcohol is consumed resulting in nausea, sensation of heat in head and neck, hypotension, flushing and palpitations. This deters people from drinking along with disulfiram
- Causes increase in the level of dopamine and decrease in the level of nor adrenaline in brain by blocking dopamine β hydroxylase
- Supervised' disulfiram use was found to better than placebo, naltrexone, acamprosate, lengthening time to relapse and maintaining abstinence on short term abstinence rate. There are several studies that shows that supervised disulfiram is effective in Indian populations
- Patients who are motivated, have less impulsivity, intelligent, and whose craving is dependent on internal and external cues are better candidates for disulfiram
- Dose: 250 mg/day for 1 year. Started when the body is alcohol free for at least 24 hrs
- Common side effects are drowsiness and gastric irritation
- No evidence to guide how long to prescribe - guiding principle to stop disulfiram is when patient and therapist mutually agree and patient is confident of remaining abstinence

NALTREXONE

- Naltrexone is one of the most widely studied medications with a strong efficacy base
- Opiate receptor antagonist - decrease in euphoric and rewarding effects of alcohol, and decrease in alcohol induced dopamine release which causes reduction in rewarding and decrease in craving

- Reduces return to heavy drinking by reducing lapse to relapse, but does not improve the abstinence rate. Long acting Injectable form of Naltrexone has been used to overcome poor adherence.
- Useful in people with family history of alcohol dependence and type A alcoholism (Babor classification)
- Oral dose: 50 mg/day (can be given also while using alcohol)
- Injectable (not yet formally approved for use in India): 190 mg and 380 mg/month in people with poor adherence
- Mild and transient side effects –
  - Most common adverse effect is nausea and sedation
  - CNS: headache, dysphoria, fatigue
  - GI: nausea, abdominal pain, vomiting, and liver toxicity
- Longer duration of use (6 months) had better outcomes compared to shorter duration (3 months) - benefits also observed to last for 3-12 months after stopping

ACAMPROSATE (calcium acetyl homotaurinate)

- Synthetic molecule which is hypothesized as a functional glutaminergic NMDA antagonist and reduces hyperglutamatergic state and reestablishes the homeostasis.
- Acamprosate better than placebo in maintaining abstinence and in preventing relapse; Acamprosate reduces heavy drinking in patients who have relapsed.
- Dosage: Available in 333 mg pill & dose of 999 mg to 1998 mg/day based of weight of the patient
- Adverse effects: GI disturbance most common
- Not metabolized in the liver and excreted unchanged in kidney – contraindicated in severe liver and renal impairment
- To be used for a year - benefits also observed to last for 3-12 months after stopping

BACLOFEN

- Stereo selective gamma aminobutyric acid B receptor (GABA) agonist - inhibit the release of neurotransmitters such as Dopamine, 5HT, NA, Glutamate
- Baclofen has a higher rate of abstinence and decreases anxiety. Baclofen holds promise and should be first line of management in patients with moderate to severe cirrhotic liver disease.
- Dose: 30-60 mg/day
- First line of management in the presence of moderate to severe cirrhosis

TOPIRAMATE

- Reduces mesolimbic activity of dopamine by Facilitates GABA transmission, decrease in AMPA (Glutamate excitation)

- Reduces the percentage of heavy drinking days, maintain abstinence, harmful drinking consequences, physical health and quality of life.
- Dose: 150-300 mg/day
- Adverse effects: Paraesthesia, Anorexia, Insomnia, difficulty in concentration

SELECTIVE SEROTONIN REUPTAKE INHIBITOR (SSRI)

- SSRIs are generally used for patients with comorbid depression, effectiveness is less consistent in non depressed patients
- SSRIs worsen outcome in early onset, family history of alcoholism

GAMMA HYDROXYBUTYRIC ACID (GHB)

- GABA-B agonist
- To prevent relapse and decrease in craving in patients during 3 months follow up
- Because of the risk of addiction drug should be used only under strict medical surveillance

ONDANSETRON

- 5-HT3 antagonist
- May be effective in early onset users

ANTIPSYCHOTICS

- Aripiprazole, Quetiapine, Olananzapine, Amisulpride, Flupenthixol, Haloperidol and Clozapine – only case reports which state that they improve drinking outcome
- Not recommended for general use

MANAGEMENT OF ALCOHOL DEPENDENCE

PSYCHOSOCIAL INTERVENTIONS

- Psychosocial therapies differing widely in conceptual framework, intensity, duration, and location
- Structured specific therapies have better outcome compared to less defined supportive counselling
- No particular psychotherapy has been found consistently to be better than others

GOALS:

- Enhance efficacy of Pharmacotherapy
- Achieving sustained drug free status
- Change in life style and

- Improve quality of life

MOTIVATION ENHANCEMENT THERAPY

- Maximize patient's intrinsic desire to change substance use using motivational interviewing techniques
- Empathic, non-judgemental and supportive approach to examine patient's ambivalence about changing substance use behaviours

BRIEF INTERVENTIONS

- Also used for motivation enhancement
- Consists of FRAMES: Feedback, Personal Responsibility, Advice, Menu , Empathy and Self efficacy
- Lesser time and carried out in primary health care setting, cost effective
- Motivation Enhancement Therapy (MET) / Motivation Interviewing and Brief intervention (BI) have been found to be effective - They can be given in different setup by different professionals. A brief MET of 4 sessions has been found to be as effective as or better than other therapies for alcohol dependence. The effects have been improved when combining with medications.

COGNITIVE BEHAVIOUR THERAPY

- Based on social learning theories aimed at improving self control and social skills
- Along with medications they have found to be effective in relapse prevention & decrease in alcohol use

RELAPSE PREVENTION COUNSELLING

- Uses CBT techniques to develop greater self control over alcohol use behaviours to avoid relapse
- People who have better coping strategy for internal and external stressors, learn from previous lapses and have mastery over self control measures have better outcome

BEHAVIOURAL THERAPIES

- Based on learning theories and positive reinforcements for target behaviours
- Community reinforcement approach is effective

GROUP THERAPIES

- Helps in making efficient use of therapist time
- Encourage people to discuss problems and reduction in stigma
- Group therapies involving assertive techniques, social skill training, family focussed

therapy and motivation enhancement has been shown to be effective

FAMILY THERAPY

- To address dysfunctional families and those with high expressed emotions that leads to substance abuse and plays an important role in Indian context
- Family therapies along with medication have found to be better in reduction of alcohol, relapses and this has also been found effective in Indian setup

SELF HELP GROUP APPROACH AND 12 STEP ORIENTED PROGRAMME

- 12 steps approach – steps used in Alcoholics Anonymous (AA)
- Offers emotional support and a model of abstinence for people recovering from alcohol dependence
- AA or other 12 step approaches have been found to be effective method for management but was not found to better than other treatments in reducing alcohol use and achieving abstinence

COMPARISON OF DIFFERENT THERAPIES

- Have minimal long-term difference between inpatient/residential treatment and outpatient counselling approaches
- Equivalent outcomes with both brief, non-intensive treatments and intensive treatments for moderately severe alcohol dependence

COMBINED PHARMACOLOGICAL AND NON PHARMACOLOGICAL APPROACH HAS BETTER EFFECTIVENESS

- Several well conducted studies have consistently shown that utility of pharmacological therapies can be enhanced when combined with psychosocial interventions

MANAGEMENT OF ALCOHOL DEPENDENCE IN SPECIAL POPULATIONS

PREGNANCY AND LACTATION

- Adverse effect on mother, baby and course of pregnancy
- Fetal alcohol spectrum disorder
- Typical facies, growth and mental retardation

MANAGEMENT

- Stop alcohol use
- Treat medical and psychological co-morbidities
- Monitor pregnancy closely

- Non-pharmacological treatments should be treatment of choice
- When needed drugs can be used after discussing about pros and cons and taking an informed decisions and close monitoring of the pregnancy

YOUNG AGE GROUPS

- Associated disorder: Conduct disorder, ADHD, Major Depression, Anxiety/ Bipolar disorder

MANAGEMENT

- Young people with problems of alcohol use have shown that school based interventions, family based interventions and multipronged interventions have found to effective in medium and long term
- Young children should also be assessed for psychiatric comorbidity and managed accordingly

PROBLEMATIC ALCOHOL USER

- Refers to any user who has problem with alcohol use which may be physical, psychological, social consequences etc.
- Includes hazardous use of alcohol, harmful use of alcohol and alcohol dependence
- Hazardous use: term given by WHO to pattern of substance use which carries with it a risk of harmful consequences (physical/mental/social) to the substance users or others
- Harmful use of alcohol as per ICD-10 refers to use of alcohol leading to physical and psychological harm to the individual
- 50% of Indian regular users contribute to the category of hazardous drinking

MANAGEMENT

- Screening for alcohol use and Brief Intervention decrease considerable morbidity and mortality.
- Screening for alcohol use and Brief intervention (BI) has been found to decrease alcohol use in different settings and with different person providing intervention

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Synopsis of the Clinical Practice Guidelines on Management of Opioid Use Disorders

Atul Ambekar
Shrigopal Goyal
On behalf of the IPS-SS-SUD

2015

1. INTRODUCTION

- Substance use is a complex problem having multiple medical and social ramifications.
- Opioid dependence is a chronic, relapsing disorder amenable to medical treatment.

1.1 History

- In India, Opioids have been used for centuries as medicines as well as for recreational purpose.
- In recent years, the problem of opioid use – particularly through the injecting route – has assumed an entirely new dimension in India.

1.2 Epidemiology

- Worldwide, some 12 to 21 million people use opiates (0.5-0.8%).
- In India, prevalence of opiates use range from 0.7% to 1.4% in the general adult male population. A pattern of shift from using natural opioids to newer and prescription opioids such as buprenorphine, codeine and dextropropoxyphene is apparent in the country.
- Though prevalence is low among general population, it is substantial among treatment seekers (41 to 43%).

1.3 Consequences of opioid use

- Opioid dependence imposes a significant economic burden on society.
- Opioid dependence also has an effect on productivity, due to unemployment, absenteeism, and premature mortality.
- Injecting drug use (IDU) is strongly associated with HIV, hepatitis C and other blood borne infectious diseases. In India, opioids are the drugs most commonly injected by IDUs.

Box 1: Pharmacology

- In the clinical context, opioid may be classified on the basis of their action on the opioid receptor as:
  - Opioid agonists,
  - Opioid antagonists and
  - Partial agonists
- **Opioid receptors**: μ, δ, κ and OFQ/N (ORL-1)
- **Opioids effects**: include analgesia, euphoria, respiratory depression, miosis, changes in mood, indifference to anticipated distress, drowsiness, decreased ability to concentrate, changes in endocrine and other functions regulated by the hypothalamus, and increased tone of smooth muscle in the gastrointestinal (GI) tract.

1.4 Opioid Use Disorders

- It encompasses harmful / hazardous use, dependence, intoxication, withdrawal, and psychiatric syndromes and disorders that result from substance use.

1.5 Course and outcome of opioid use disorders

- A chronic, relapsing course; around 10-40% opioid user remain abstinent in follow up.
- **Factors associated with maintaining abstinence**: Contact with treatment team, personal motivation, spirituality, family and employment.
- **Measures of treatment outcome**: drug use / abstinence, legitimate work, crime, family relationships, psychological adjustment.

2. ASSESSMENT

2.1 Clinical History

- Focus upon: mode of onset, quantity, frequency, and duration of substance use; the escalation of use over time; history of withdrawal symptoms, the motivation for use; the specific circumstances of the individual's substance use; the desired effect of the substance used; the most recent dose of each substance used; last dose of each substance used. Additionally consequences of substance use in health (physical and mental), occupational, social, financial, legal spheres of life.
- History of any prior treatment / abstinence, family and social history, Individual preferences, motivations, and barriers for treatment.

2.2 Clinical examination

- A comprehensive general medical and psychiatric examination, including mental status and physical. Assessment for intoxication and withdrawal symptoms.

2.3 Investigations

- NONE ESSENTIAL FOR THE PURPOSE OF DIAGNOSIS and planning the core treatment for opioid use disorders, but it is a good practice to document the 'baseline' status. Recommended investigations: urine screening for substances of abuse, routine hematological and biochemical tests, screening for infectious and other diseases (HIV, tuberculosis, hepatitis)

2.4 Instruments

- Screening and diagnostic.
- Instruments have high sensitivity so that they can be used for screening purpose. Instruments with high degrees of specificity confirm the diagnosis of substance use disorder. Role largely confined to research settings and not in the routine clinical care.

3. GOALS OF TREATMENT

- Abstinence from using opioids.
- Retention in treatment.
- Reduction in the frequency and severity of substance use episodes.
- Improvement in psychological, social, and adaptive functioning.
- Harm reduction: Reduction of harms associated with drug use without reduction in drug use per use.

Box 2: Concept of Harm Reduction

- Defined as '*policies, programmes and practices that aim primarily to reduce the adverse health, social and economic and legal consequences of the use of legal and illegal psychoactive drugs without necessarily reducing drug consumption*'.
- Aim of harm reduction strategies: is to keep drug users alive, well and productive until treatment works or they grow out of their drug use and can be reintegrated into society.
- Harm reduction approach is endorsed in the National policies and used for Injecting Drug Users (IDUs) to reduce risk of HIV infection through sharing and reuse of unsafe injecting equipment.
- **Strategies for harm reduction**
  - Outreach programs and peer education
  - Needle and syringe programs.
  - Drug substitution / Agonist maintenance programs

4. TREATMENT SETTINGS

4.1 Factors affecting choice of treatment setting

- Capacity and willingness to cooperate with treatment, ability for self-care, social environment, management of co-morbidity, preferences.

4.2 Types of setting

- Hospitals, Partial hospitalization programs and intensive outpatient programs, Residential treatment, Therapeutic communities, Community residential facilities, Aftercare, Outpatient settings, Prison as treatment setting, Employee assistance programs.

MOST PATIENTS CAN BE MANAGED IN OUTPATIENT CLINICS. SOME MAY REQUIRE INPATIENT SETTINGS LARGELY FOR THE TREATMENT OF ACUTE WITHDRAWAL SYMPTOMS.

5. MANAGEMENT OF OPIOID USE DISORDERS

5.1 General Principles

- Motivation Enhancement, Establishing and maintaining a therapeutic framework and alliance, Assessing safety and clinical status, Pharmacological management.

5.2 Pharmacological management

5.2.1 Managing intoxication / Overdose: (Refer to figure 1)

- **Classic triad** of severe opioid intoxication / overdose includes (i) Coma / Unconsciousness, (ii) Severely depressed respiration, and (iii) Pinpoint pupils.
- **Management**:
  - Ensuring clear airways and breathing, and other supportive measures.
  - **Naloxone** is the specific antidote (0.8mg i.v./subcutaneous initially and may require repeat administration).

5.2.2 Withdrawal Management (detoxification)

- **Criteria for determining suitability**: a relatively short history of opioid use, younger age, good motivation, good social support, no maintenance treatment program is available locally, or the patient desires to not be restricted by the requirements of agonist maintenance medication.

5.2.2.1 Agonist agents

- Treatment of choice for Withdrawal Management is an agonist medication with long duration of action.

5.2.2.1.1 Buprenorphine

- Buprenorphine sublingual tablets are strongly recommended agent in India.
- Adequate dose and duration should be guided by withdrawal status of the patient.
- Most patients stable on Buprenorphine 6 mg per day - tapered off within next 7-10 days inpatient setting.
- Outpatient setting: Dose reductions should occur gradually over a period of 10–14 days.
- The dose can be decreased in increments of 0.4 to 2 mg/day over several days. Because buprenorphine has a long duration of action, minimal withdrawal symptoms are seen during the dose reduction.

5.2.2.1.2 Methadone

- Inpatient setting: patient is stabilized on a daily methadone dose that is determined by the patient's response based on objective withdrawal sign. Once the stabilization dose is determined (usually 40–60 mg/day and sometimes less), methadone can be tapered by 5 mg/day.
- Withdrawal management using Methadone should be avoided in the outpatient settings.

5.2.2.2 Alpha-2 adrenergic agonists (Clonidine)

- Clonidine is a centrally acting á2-adrenergic antihypertensive medication which decreases the noradrenergic hyperactivity associated with opioid withdrawal.
- Reduces withdrawal symptoms such as nausea, vomiting, diarrhea, cramps, and sweating.
- However not effective for other – more distressing – withdrawal symptoms such as pains, muscle aches, insomnia, distress, and drug craving.
- Does not produce opioid-like tolerance or dependence.
- Requires careful monitoring of side effects (particularly hypotension).

5.2.2.3 Use of other medications

- Some other medications may also reduce some of the symptoms of opioid withdrawal
- Sedative hypnotics or anxiolytics for insomnia and/or anxiety, antiemetics for nausea and vomiting, NSAIDs for muscle cramps, and antispasmodics for gastrointestinal cramping.
- Agonist is treatment of choice for detoxification.
- In cases where agonists cannot be used, clonidine treatment can be recommended, but only in the inpatient settings with careful monitoring of side effects (particularly hypotension)
- The phase of detoxification should be utilized for preparing the patients for a longer term treatment which is aimed at prevention of relapse and rehabilitation.
- Ultra rapid detoxification is not recommended owing to unnecessary expenses, risks involved and no extra benefits.

5.2.3 Long term pharmacotherapy

5.2.3.1 Agonist maintenance treatment / Opioid Substitution Treatment:

- **Criteria for determining suitability for OST**: long-duration opioid users with severe dependence, with high risk of relapse and for those who are willing to comply with the requirements.
- **The specific objectives of agonist maintenance treatment are**
  - to reduce illegal and other harmful drug use,
  - improve the patient's health and well-being,
  - reduce the risk of transmission of blood-borne infectious diseases,
  - reduce death and other medical morbidities associated with drug use,

- reduce crime committed by patients,
- facilitate an improvement in the patient's occupational and social functioning,
- improve the economic status of patients and their families

5.2.3.2 Methadone

5.2.3.2.1 Introduction

- Methadone is a synthetic narcotic analgesic compound, a typical mreceptor agonist and produces euphoria, analgesia, and other typical morphine-like effects.
- Properties of methadone makes very useful maintenance agent:
  - its reliable absorption and bioavailability after oral administration
  - The delay of peak plasma levels until 2 to 6 hours after ingestion.
  - The binding to tissues that creates a large reservoir of methadone in the body contributing to long duration of action (and hence requires administration just once a day).

5.2.3.2.2 Treatment outcome

- Methadone treatment reduces mortality, and decreases illicit drug use, criminal activity, Reduces HIV infection healthcare cost, unemployment and accidental overdoses among opioid dependent individuals.
- Socially productive behaviour as measured by employment, schooling or home making also improve with length of time in treatment.
- Overall methadone maintenance is cost-beneficial.

5.2.3.2.3 Dosing and Duration

- Minimum effective dose found in the western studies is 60 mg / day. A dose below 50 mg enhances the risk of patient drop-out. Higher doses on the other hand lead to longer retention and greater reduction in illicit opioid use.
- In general longer the duration of treatment and retention in treatment, better the outcome.
- **Preparation of methadone**: usual formulations are 5mg/ml of liquid and 5 mg / 10 mg / 20 mg tablets.
- **Induction**: administering lower doses in the beginning (10 to 20 mg per day on first three days) and subsequent dose increments of about 5 mg every third day (owing to accumulation of methadone in the body).
- Stabilization dose of methadone for Indian patients between 40 and 80 mg per day.

- Methadone offers the advantage of being a pure agonist and consequently better subjective experience for patients.
- The process of **slow induction of dose of methadone coupled with its relatively higher risk of overdose poses a challenge**.

5.2.3.2.4 Adverse effects

- **Common side effects**: sedation, constipation, sweating, nausea, dizziness, and hypotension.
- Methadone in moderate to high doses can impair cardiac conduction, prolong the QT interval, and, in rare instances, lead to torsades de pointes.

Box 3: The optimum dose of Methadone (or any other agonist for maintenance treatment) is achieved when:

- the patient evidences **no withdrawal** signs or symptoms throughout the 24-hour dosing period,
- the patient reports an **absence of craving** for opioids,
- adequate cross tolerance is obtained such that the patient experiences little or **no reinforcement** from use of other opioids.

5.2.3.3 Buprenorphine

5.2.3.3.1 Introduction

- Buprenorphine is a partial μagonist and k antagonist, long acting, highly lipophilic opiate and 25-50 times more potent than morphine (in analgesic action).
- Bioavailability: oral route - 15%; sublingual – 50-60%.
- Elimination half-life: I.V. Buprenorphine is 3.21 hours and for sublingual Buprenorphine is 27.2 hours.
- Should be the **preferred agent due to safety profile, evidence-base and experience in India**

5.2.3.3.2 Treatment outcome

- Cochrane meta-analysis: Buprenorphine is an effective intervention for use in the maintenance treatment of heroin dependence, but is not more effective than methadone at adequate doses.
- Buprenorphine treatment reduces mortality, and decreases illicit drug use, blood borne infections, criminal activity, healthcare cost, unemployment among opioid dependent individuals.

5.2.3.3.3 Dosing

- Optimal maintenance dose among Indian patients is 6-10 mg per day.
- Alternate day dosing and twice weekly dosing are also feasible options
- Induction: Buprenorphine induction involves administering the first dose in the relative opioid-free state (i.e. when patient is in mild withdrawals) and observation of the patient for 2 hours. Repeat if withdrawal symptoms persist.
- The first day's dose is usually 4-6 mg.
- Dose can be titrated upwards or downward based on clinical parameters.
- **Optimum dose**: no withdrawals, no craving, and no reinforcement on taking illicit opioids.
- Maintenance treatment should be supervised and observed to prevent diversion and abuse.
- Buprenorphine-naloxone combination is a relatively safer option and can be dispensed as 'take-home' treatment.

5.2.3.3.4 Adverse effects

- No specific adverse effects. Most of the observed effects include effects of either a lower dose (Generalized weakness, muscle aches, yawning, lacrimation, craving, anxiety, sleeplessness) or a higher dose (sense of high, relief from pain, constipation).
- Buprenorphine as maintenance treatment: Indian Experience
- India has vast clinical and research experience in using buprenorphine.
- Improvements have been observed in relation to needle sharing, unsafe sex, incidents of detention, and a range of quality of life measures.

5.2.3.4 Buprenorphine- naloxone combination

5.2.3.4.1 Introduction

- Combination of sublingual buprenorphine-naloxone addresses the problem of diversion: have a minimum risk of being injected.
- Rationale: Naloxone has poor sublingual bioavailability. By sublingual route the effect of Buprenorphine is predominant. Injected tablet will result in a predominant naloxone effect.
- Ratio of Buprenorphine and Naloxone: 4:1

5.2.3.4.2 Treatment outcome

- Direct buprenorphine/naloxone induction is a safe and effective strategy for maintenance treatment of opioid dependence; buprenorphine/naloxone combination is less likely to be diverted and injected than buprenorphine alone.

5.2.3.4.3 Dosing

- Buprenorphine-Naloxone combination is available in 2 mg/0.5 mg and 8 mg/2 mg dosages.

5.2.3.5 LAAM (levo-alpha-acetyl-methadol)

- LAAM, a mopioid agonist is a synthetic congener of methadone with the half-life of 48-96 hours
- Usual starting dose is 20-40 mg/day with supplemental methadone 5-20 mg/day and weekend dose of 80-90 mg.
- Due to Prolongation of the QT interval it is recommended that LAAM be reserved for use as a second-line agent for the treatment of opioid dependence.
- Not available in India, as yet.

5.2.3.6 Slow release oral morphine (SROM)

- Slow release oral morphine (SROM), a natural derivative of opium and a mu receptor agonist. has the advantage of single dosage, decreased sleep disturbance and increased medication compliance.
- SROM has been used as a maintenance agent in methadone intolerant individuals.
- Usual dose: 60 mg/day, some patient need dose up to 180mg -240mg.
- Indian Experience: evidence of decrease in heroin consumption, improved functioning and a decrease in illegal activities.

5.2.3.7 OST: General issues

- Outcome of OST is determined by (i) optimum dose, (ii) adequate duration of treatment and (iii) retention in treatment.
- Switching to use of another substance such as alcohol or cannabis (substitute dependence) remains a possibility in opioid dependent patients undergoing long-term treatment.
- Psychosocial treatment is an essential part of package of agonist maintenance treatment
- All agonist medications are liable to be diverted and abused. Thus, observing the operational procedures is critically important for service providers.

5.2.3.8 Antagonist treatment:

- Criteria for suitability of antagonist treatment: relatively shorter duration of opioid use, less severe dependence, high motivation, better social and occupational status, and good social support.

5.2.3.9. Naltrexone (Refer to figure No.4)

5.2.3.9.1 Introduction

- Naltrexone is a non-specific opiate antagonist that binds to all three opiate receptors sites.
- The plasma half-life of naltrexone is 4 hours, but the duration of opioid receptor blockade is much higher.

5.2.3.9.2 Treatment outcome

- Patients involved in meaningful relationships, employed full time, or attending school and living with family members are most likely to benefit from naltrexone treatment.

5.2.3.9.3 Dosing

- **Available in 50 mg tablet, daily dose is 50 mg per day.**
- Induction with naltrexone requires a totally opioid free state
- Three days of confirmed abstinence from short acting opioids, determined clinically. (Optional: Naloxone challenge test for confirming abstinence)
- Initiated in the dose of 25mg and if no withdrawals occur after 1 hour then another dose of 25 mg is given.
- Maintenance dose of oral naltrexone is 50 mg per day. Owing to its long duration of action, it can also be administered, 100 mg every alternate day or 150 mg every third day.
- Involving family members for supervising naltrexone administration is a good practice.
- Liver function tests should be monitored at baseline and during the course of therapy (every three months).
- Confirming abstinence- from family members, urine screening.

5.2.3.9.4 Adverse effects

- Gastrointestinal distress (nausea, vomiting, diarrhoea, and abdominal pain), anxiety, restlessness, dysphoria, mild hypertension, headache and insomnia.
- Hepatotoxicity at high doses

Fig.1 Algorithm for management of Opioid dependence & Opioid intoxication

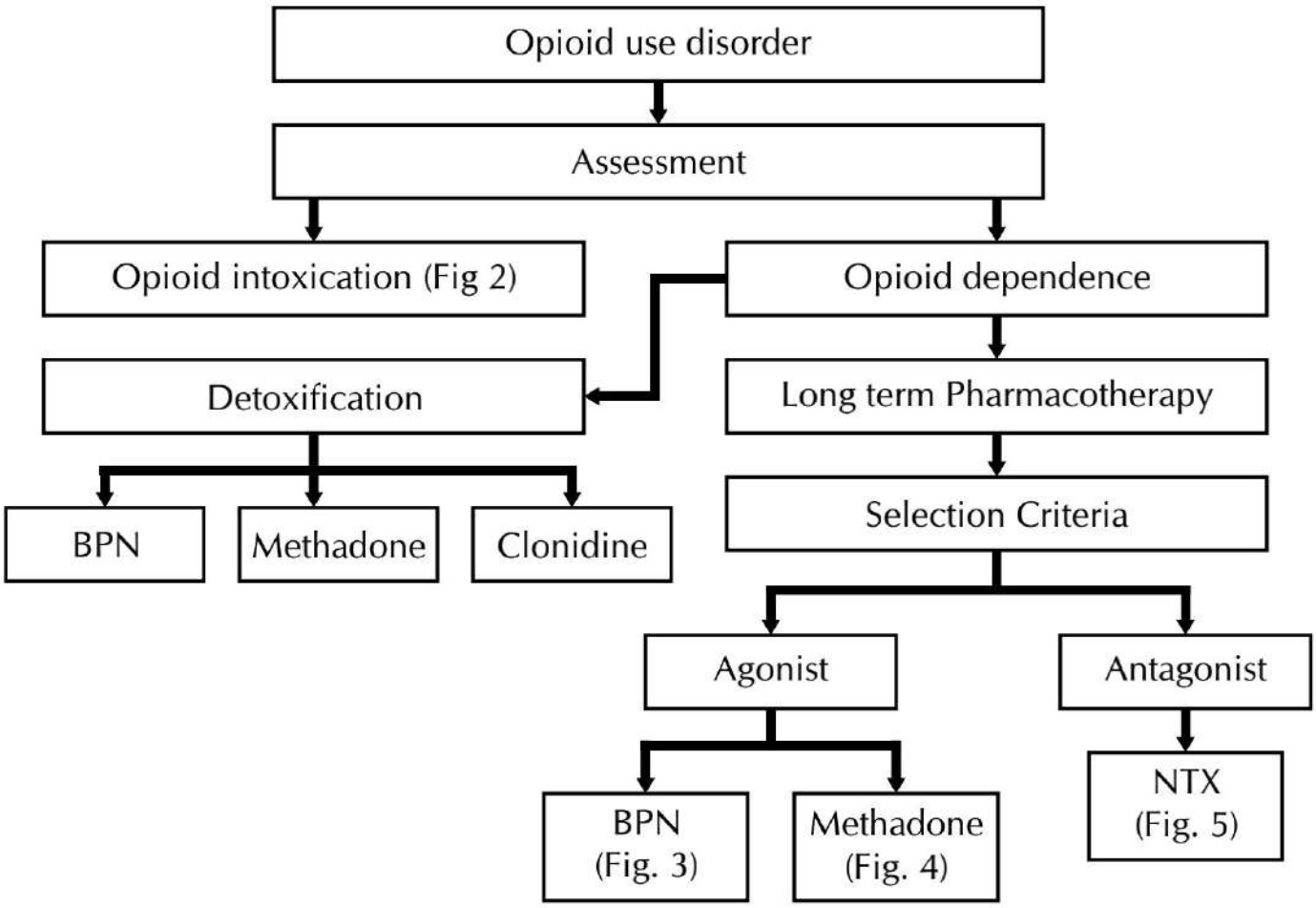
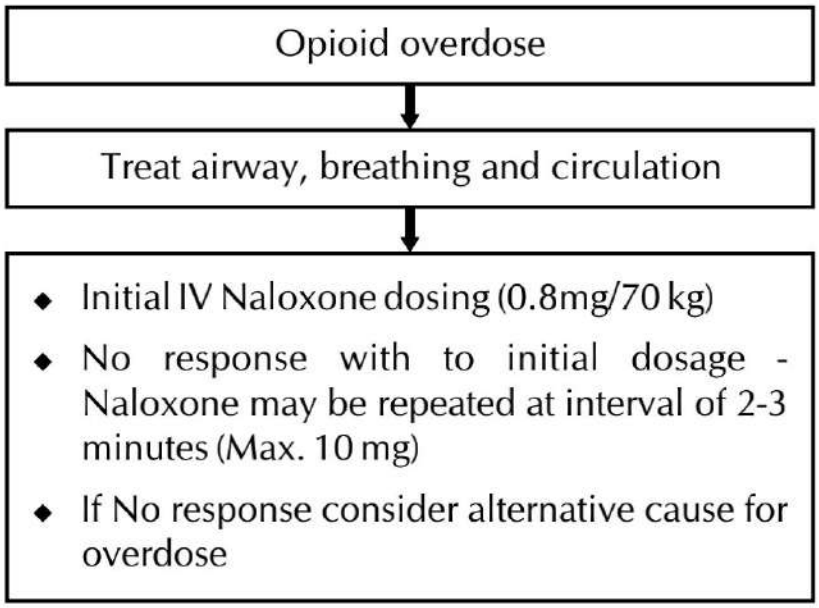


Fig. 2 Management of Opioid Overdose



Box 4 : Naloxone testing for residual dependence (Naloxone Challenge test)

- A positive test indicative of residual opioids would consist of typical signs and symptoms of opiate withdrawal. These include yawning, abdominal cramps, irritability, anxiety, chills etc.

Intravenous:

- Inject 0.2 mg naloxone.
- Observe for 30 seconds for signs or symptoms of withdrawal.
- If no evidence of withdrawal, inject 0.6 mg of naloxone.
- Observe for an additional 20 minutes.

Subcutaneous:

- Administer 0.8 mg naloxone.
- Observe for 20 minutes for signs or symptoms of withdrawal.

5.3 Psychosocial Interventions

- Task of therapist to tailor them according to the needs of particular patient.
- Essential psycho social interventions: Motivation Enhancement / Motivation Interview, Psycho-education and Relapse Prevention.

Box 5 : Special Population Groups

- **Women in pregnancy and lactation**: Agonist maintenance treatment is the preferred treatment option during pregnancy and lactation.
- **Adolescents and minors**: most guidelines discourage agonist maintenance treatment; there is growing evidence that this treatment approach can be effective and safe for adolescents as well.
- **HIV positive individuals**: agonist maintenance treatment with methadone or Buprenorphine improve outcome of ART.
- **Prison inmates**: Agonist maintenance treatment has been found to be effective.
- The help-seeking behaviour of **chronic pain patients** can be easily misconstrued as addiction.

Fig. 3 Treatment algorithm for Buprenorphine maintenance

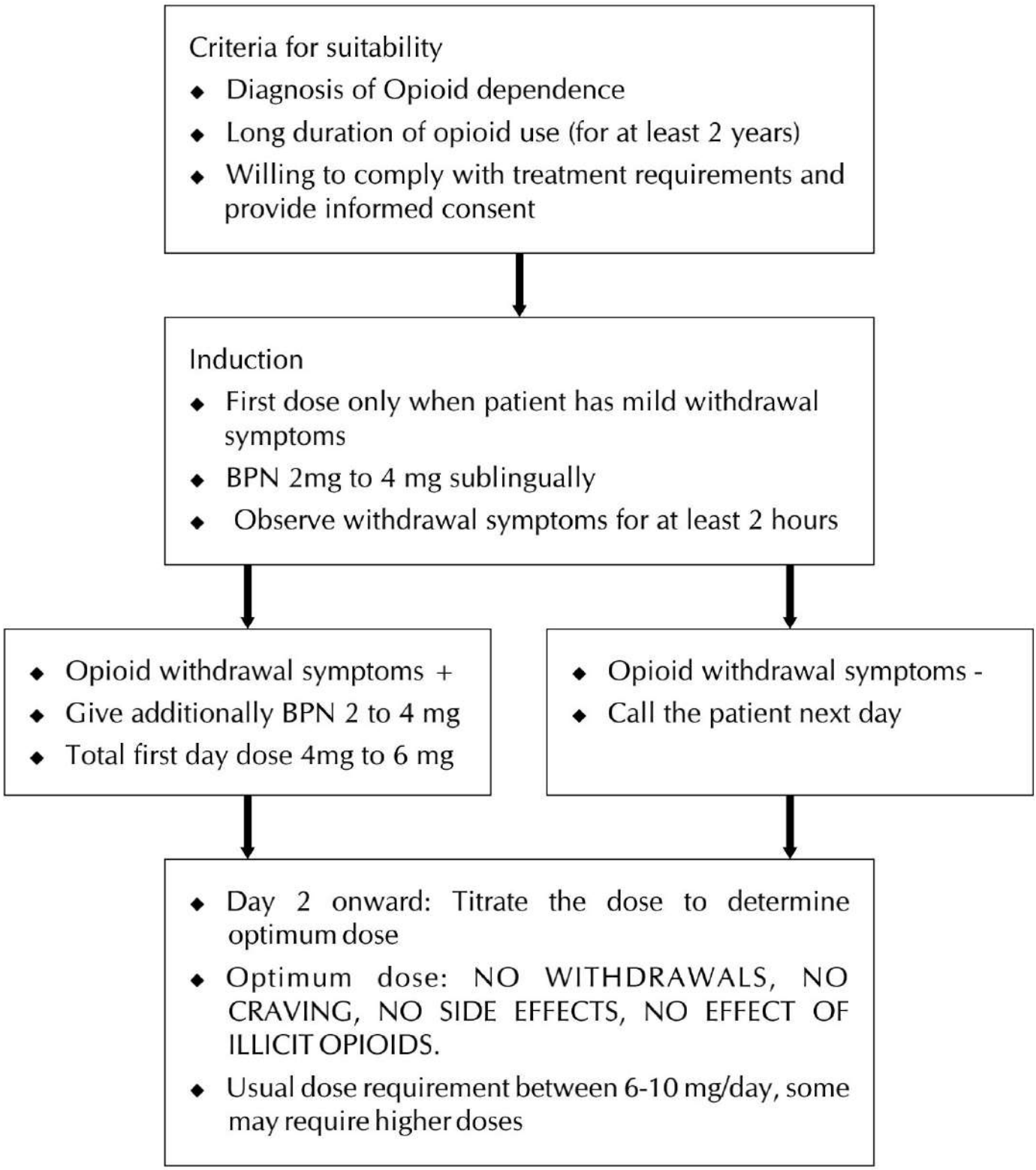


Fig. 4 Treatment algorithm for Methadone maintenance

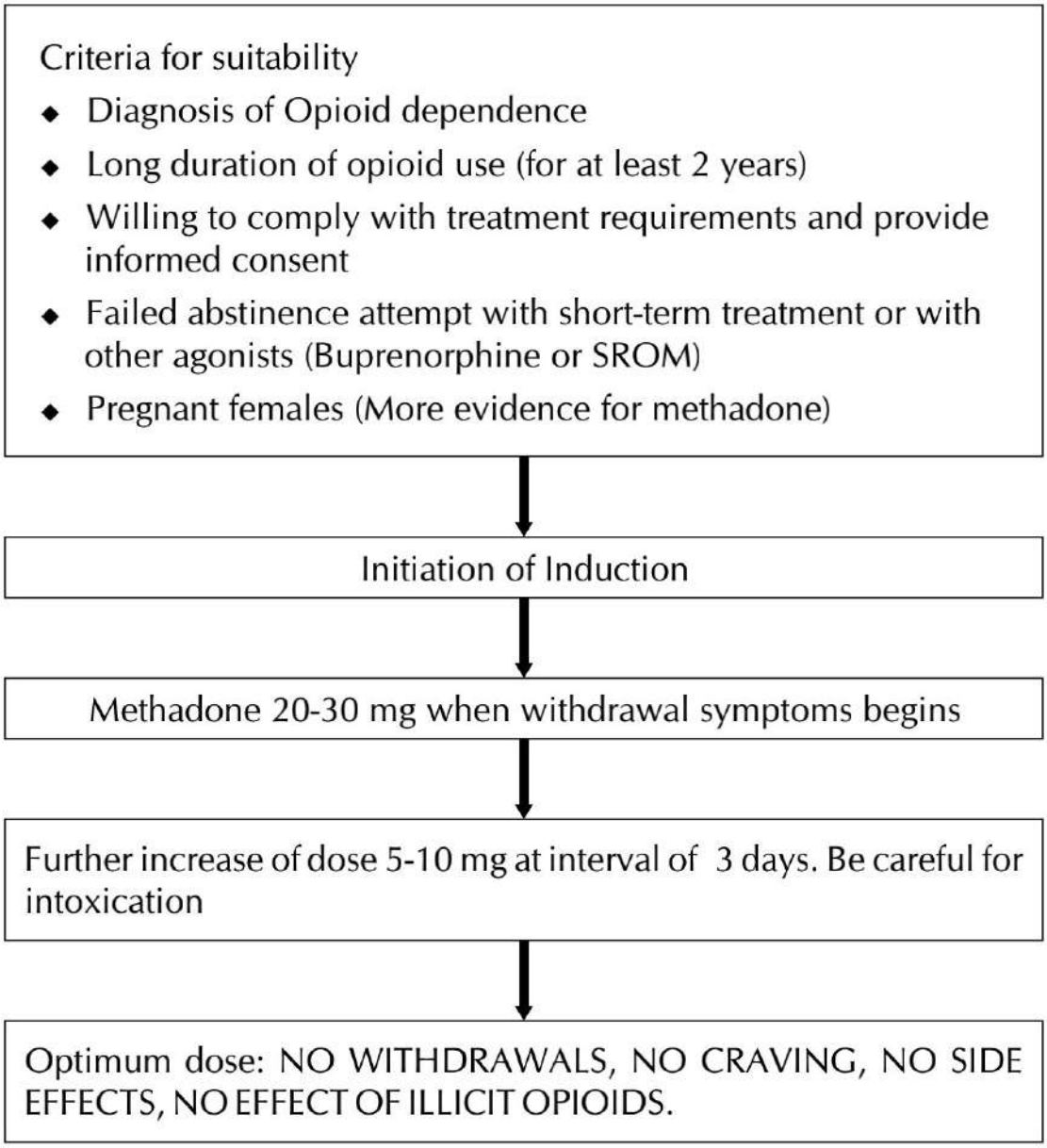
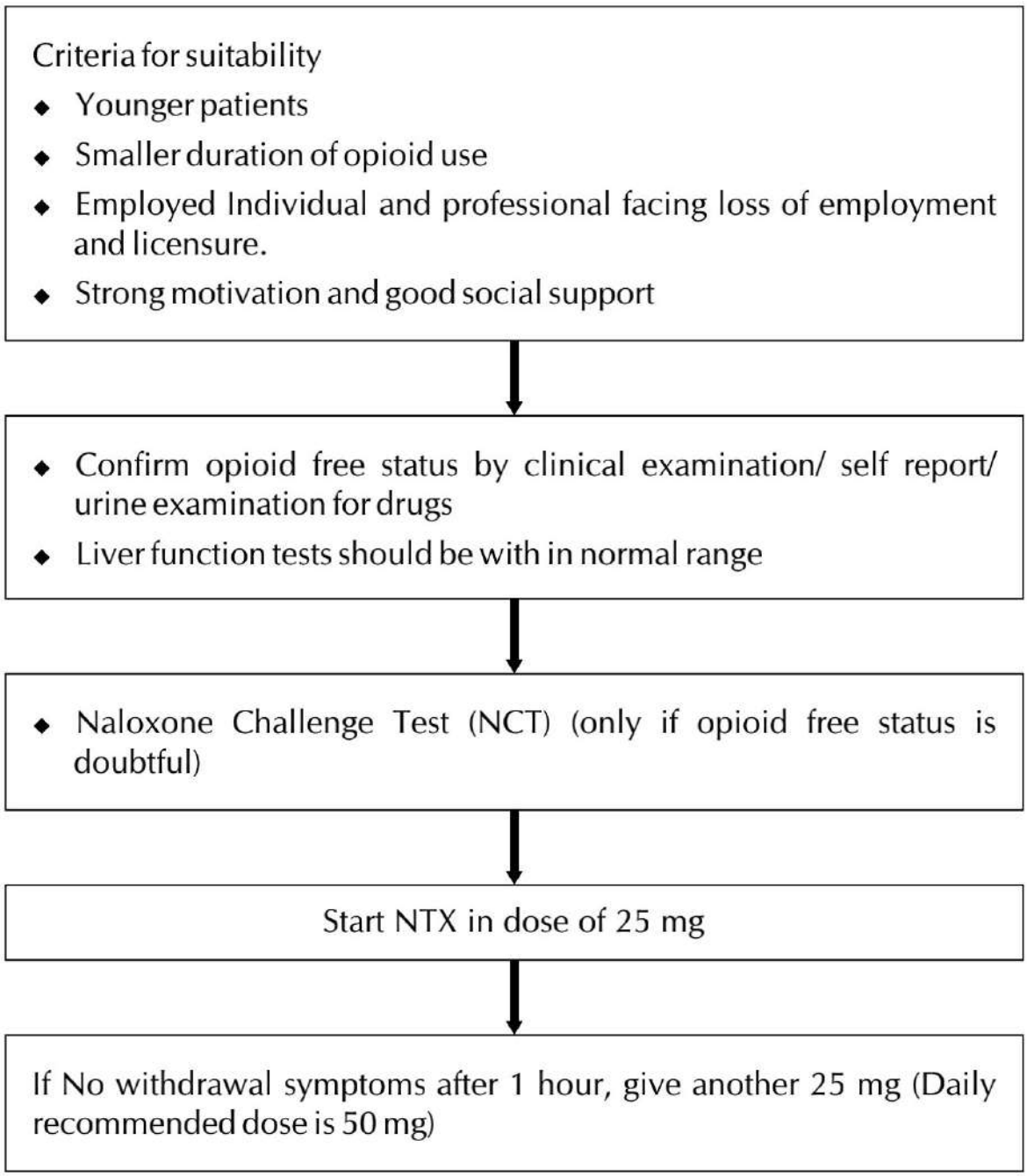


Fig 5 Treatment algorithm for Naltrexone maintenance



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Synopsis of the Clinical Practice Guidelines on Management of Cannabis Use Disorders

Shubh Mohan Singh
Abhishek Ghosh
On behalf of the IPS-SS-SUD

2015

1. CANNABIS USE DISORDERS

Cannabis and cannabis use disorders

- Source of cannabis: various parts of the female Cannabis plant
- Major psychoactive compound: Delta-9- tetrahydrocannabinol (THC)
- Concentration of THC varies across different parts of the plants: leaves ('Bhang') contain 1-3%, female flowering top ('Ganja') has a concentration of 3-5% and resinous extract ('Charas') contains 5-10% of THC
- Cannabis preparations can be smoked or ingested orally
- When smoked, effects usually last for 3-4 hours; effects may last longer up to 48-72 hours when ingested orally
- Nature and severity of cannabis use disorders depend on: the amount, frequency, duration, form and route of administration of cannabis; individual susceptibility
- Cannabis use disorders:
  - Cannabis intoxication
  - Cannabis withdrawal syndrome
  - Cannabis dependence
  - Cannabis induced psychiatric disorders
- Association between cannabis use and psychosis is well known

Some caveats to consider

- Clinical manifestations of cannabis use disorders especially cannabis intoxication and withdrawal are mostly self-limiting and nonspecific
- Treatment of these conditions is symptom directed
- Level of evidence base for proposed guidelines for the treatment of cannabis intoxication and withdrawal are speculative; therefore there is no 'recommended' treatment for these disorders
- Drug treatment for the maintenance of cannabis abstinence is also preliminary and they fall in the category of either 'suggested' or 'might be considered' level of evidence
- Only psychosocial interventions have reasonable evidence base and are recommended for the treatment of cannabis dependence
- The proposed guideline is based on the extrapolated evidence obtained from developed countries

2. FORMULATION AND IMPLEMENTATION OF A TREATMENT PLAN

Treatment setting

Owing to the transitory and self-limiting nature of most cannabis use disorders, Outpatient treatment is sufficient for most patients

Inpatient treatment is warranted for those who develop:

- Severe anxiety or paranoia with cannabis intoxication
- Cannabis induced psychosis that is unmanageable in the outpatient setting
- Serious comorbid psychiatric disorders (like Schizophrenia)which merits hospital admission
- Comorbid substance use disorder with an independent indication for inpatient treatment

General assessment

- Clinical history: Form, relative potency and the amount of the cannabis consumed, route of administration, duration and frequency of intake, last intake, history of previous adverse reactions
- Determination of the diagnosis of cannabis use disorders: based on the nature and severity of presenting complaints (cannabis intoxication/ withdrawal)
- Assessment for co-morbid substance use disorders/psychiatric disorders/general medical or neurological conditions
- Laboratory tests: urine qualitative immunoassay for the presence of cannabinoids in urine; not diagnostic of any disorders but indicates recent use of cannabis

3. MANAGEMENT OF SPECIFIC SYNDROMES RELATED TO CANNABIS USE

Treatment of cannabis intoxication

- Diagnosis is likely when:
  There is a close temporal relation with some form of cannabis intake
  and
  Presence of symptoms like conjunctival injection, increased appetite, dry mouth, tachycardia, anxiety, perceptual disturbances
- Symptoms are mostly transient, mild and self-limiting
- Reassurance and supportive care are usually sufficient
- Pharmacological treatment is necessary in patients with:
  - Severe and distressing anxiety symptoms
  - Unmanageable and disruptive psychotic symptoms
- 'Suggested' treatment: Benzodiazepine (preferably short acting) and antipsychotics (preferably second generation) are drugs of choice for symptomatic relief
- 'Might be considered' treatment: Propranolol 60-120 mg/day
- Duration of treatment: 1-2 days

Treatment of cannabis withdrawal syndrome

- Diagnosis is likely when:
  Following cessation of heavy and prolonged cannabis use
  and
  Presence of symptoms like irritability, anger, depressed mood, restlessness, insomnia, tremors, decreased appetite
- Symptoms are mostly transient, mild and self-limiting
- Reassurance and supportive care are usually sufficient
- Pharmacological treatment is necessary in patients with severe and distressing withdrawal symptoms
- 'Suggested' treatment: Benzodiazepines, based on clinical experience
- 'Might be considered' treatment: Dronabinol (20-60 mg/day), Baclofen 40 mg/day
- Duration of treatment: around 7 days

Treatment of cannabis dependence

- Maintaining complete abstinence is the goal of treatment
- Psychosocial interventions are the mainstay of treatment
- Evidence for drug treatment is still preliminary
- Pharmacological treatment:
  - Should ideally be used in combination with psychosocial interventions
  - 'Suggested' treatment: Buspirone (up to 60 mg/day)
  - 'Might be considered' treatment: Baclofen (40-60 mg/day), Fluoxetine (20-40 mg/day), N-acetyl-cysteine (1200 mg/day), Entacapone (200 mg/day)
  - Duration of treatment: 3-12 months
- Psychosocial interventions: all are 'recommended' for the treatment of cannabis dependence
  - Motivation enhancement therapy (MET)
  - Cognitive behavioral therapy (CBT)
  - Combined MET & CBT
  - Contingency management (CM) in conjunction with either MET/CBT
  - Family Systems therapy
  - Number of sessions for psychosocial intervention: 2-14 depending on the type and setting of psychosocial intervention
  - Frequency of sessions: once in a week to once in 2 weeks
  - Either individual or group sessions

Psychosocial interventions for cannabis dependence

Motivation enhancement therapy (MET)

- Non-directive
- Resolve ambivalence for quitting cannabis and strengthen the motivation to change
- Individual session duration:45-60 minutes session
- Number of sessions: 1-4 sessions
- Tested across various age groups and treatment settings

Cognitive behavior therapy (CBT)

- Teaching of coping skills to quit cannabis
- Problem solving skill training
- Life style management
- Conducted through interactive exercises, practical assignments and role playing
- Individual session duration:45-60 minutes
- Number of sessions: 6-14
- Has synergistic effect when combined with MET

Contingency management (CM)

- Reinforcing or punishing consequences in order to achieve therapeutic goal
- Primarily aims at abstinence reinforcement
- Also intends to facilitate retention in treatment, adherence to medications or therapy sessions
- Reinforcement is mostly through payment of token vouchers
- Should always be used in conjunction with other forms of psychosocial interventions

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Synopsis of the Clinical Practice Guidelines on Management of Sedative-Hypnotics Use Disorders

Kaustav Chakraborty
Amitava Dan
On behalf of the IPS-SS-SUD

2015

1. INTRODUCTION

- Sedatives and hypnotics are used to treat a wide variety of disorders, including sleep disorders, anxiety disorders, epilepsy, manic episodes, depression, symptoms of alcohol withdrawal, and rapid tranquilisation
- Medications included in the category of sedatives and hypnotics are of 3 types: barbiturates, benzodiazepines and others which include the "Z-drugs" (zolpidem, zopiclone, zaleplon)

APPROXIMATE THERAPEUTIC EQUIVALENT DOSES OF BENZODIAZEPINES

Benzodiazepines	Common therapeutic use	Approximately equivalent dosage (mg)	Elimination half life (active metabolite) in hrs
Alprazolam	Antianxiety	0.5	6-12
Chlordiazepoxide	Antianxiety	25	5-30 (36-200)
Clonazepam	Anticonvulsant	0.5	18-50
Diazepam	Antianxiety	10	20-100 (36-200)
Flunitrazepam	Hypnotic	1	18-26 (36-200)
Flurazepam	Hypnotic	15-30	40-250
Loprazolam	Antianxiety	1	6-12
Lorazepam	Antianxiety	1	10-20
Lormetazepam	Hypnotic	1	10-12
Nitrazepam	Hypnotic	10	15-38
Oxazepam	Antianxiety	20	4-15
Temazepam	Hypnotic	20	8-22

2. MANAGEMENT OF BENZODIAZEPINE USE DISORDERS

2.1 Management Of Benzodiazepine Intoxication

- The benzodiazepines in contrast to the barbiturates and the barbiturate like substances have a large margin of safety when taken in overdoses
- The ratio of lethal to effective doses is approximately 200 to 1 or higher
- Flurazepam, had the highest fatal toxicity index of any benzodiazepine (15.0), followed by temazepam (11.9), vs. benzodiazepines overall (5.9) taken with or without alcohol

STEPS FOR MANAGEMENT OF BENZODIAZEPINE INTOXICATION

Gastric lavage	**Not recommended** but **might be considered** if the presence of a lethal co-ingestant is suspected and the patient presents within 1 hour of ingestion
Assisted ventilation	**Might be considered** in case of respiratory depression
Flumazenil	Flumazenil is a competitive benzodiazepine receptor antagonist. Barring mixed overdoses and benzodiazepine dependent patients, use of Flumazenil **is suggested** in acute intoxication with benzodiazepines Dose: Intravenous injection of 0.1 mg to 0.3 mg over a period of 30 seconds is the most effective and safe mode to elicit optimal arousal, but additional boluses are usually required until consciousness is adequately established or a predetermined maximal dose (2 to 5 mg) is reached

2.2 Management Of Benzodiazepine Dependence

Three overlapping types of benzodiazepine dependent populations exist:

- **Therapeutic dose dependence**: The 'therapeutic dose' users include patients who have been prescribed benzodiazepines usually on a long-term basis for a disorder such as anxiety or insomnia but who do not abuse their prescription
- **Prescribed high-dose dependence**: A minority of patients who start on prescribed benzodiazepines escalate their dosage excessively.
- **Recreational benzodiazepine use**: These are the patients who misuse their prescription and/or use illicit benzodiazepines, often in high doses. This may include benzodiazepines purchased via the internet

2.2.1 Management of benzodiazepine dependence in 'therapeutic dose' users

- A stepped approach **might be considered**, moving through minimal interventions to gradual dose reduction and then additional therapies aimed at specific symptoms

MANAGEMENT OF BENZODIAZEPINE DEPENDENCE IN 'THERAPEUTIC DOSE' USERS

Minimal interventions such as advisory letters or General Practitioner advice	**Recommended** in early/mild dependence
Gradual dose reduction of prescribed benzodiazepine	**Recommended** where dependence is established
Switching to a long half-life benzodiazepine from a short half-life benzodiazepine before gradual taper	**Might be considered** for patients having problematic withdrawal symptoms on reduction
Additional psychological therapies e.g. group Cognitive Behavior Therapy (CBT)	**Suggested** for patients with insomnia and panic disorder
Additional pharmacotherapy e.g. antidepressants, melatonin, valproate, and flumazenil	**Might be considered** on an individual basis

2.2.2 Management of benzodiazepine dependence in high-dose and/or illicit drug users

- Little evidence to guide practitioners in the management of this often difficult-to-treat population
- Patients should be assessed to determine why they are using benzodiazepines
- The presence of alcohol or other illicit drug abuse or dependence should be determined
- Existing evidence do not support maintenance prescription of benzodiazepines in illicit drug users, although it may reduce illicit benzodiazepine use in some patients
- Reduction schedules should be negotiated at the outset and doses greater than 30 mg diazepam equivalent per day should rarely be prescribed
- In high-dose users, reducing to a 'therapeutic' benzodiazepine dose level **is recommended**, because of the high relapse or drop-out rates with detoxification
- Carbamazepine **might be considered** instead of benzodiazepines to control withdrawal symptoms

WITHDRAWAL FROM HIGH DOSE (6mg) ALPRAZOLAM WITH DIAZEPAM SUBSTITUTION (6mg alprazolam is approximately equivalent to 120mg diazepam)

	Morning	Midday/Afternoon	Evening/Night	Daily Diazepam Equivalent
Starting dosage	alprazolam 2mg	alprazolam 2mg	alprazolam 2mg	120mg
Stage 1 (one week)	alprazolam 2mg	alprazolam 2mg	alprazolam 1.5mg diazepam 10mg	120mg
Stage 2 (one week)	alprazolam 2mg	alprazolam 2mg	alprazolam 1mg diazepam 20mg	120mg
Stage 3 (one week)	alprazolam 1.5mg diazepam 10mg	alprazolam 2mg	alprazolam 1mg diazepam 20mg	120mg
Stage 4 (one week)	alprazolam 1mg diazepam 20mg	alprazolam 2mg	alprazolam 1mg diazepam 20mg	120mg
Stage 5 (1-2 weeks)	alprazolam 1mg diazepam 20mg	alprazolam 1mg diazepam 10mg	alprazolam 1mg diazepam 20mg	110mg
Stage 6 (1-2 weeks)	alprazolam 1mg diazepam 20mg	alprazolam 1mg diazepam 10mg	alprazolam 0.5mg diazepam 20mg	100mg
Stage 7 (1-2 weeks)	alprazolam 1mg diazepam 20mg	alprazolam 1mg diazepam 10mg	Stop alprazolam diazepam 20mg	90mg
Stage 8 (1-2 weeks)	alprazolam 0.5mg diazepam 20mg	alprazolam 1mg diazepam 10mg	diazepam 20mg	80mg
Stage 9 (1-2 weeks)	alprazolam 0.5mg diazepam 20mg	alprazolam 0.5mg diazepam 10mg	diazepam 20mg	80mg
Stage 10 (1-2 weeks)	alprazolam 0.5mg diazepam 20mg	Stop alprazolam diazepam 10mg	diazepam 20mg	60mg
Stage 11 (1-2 weeks)	Stop alprazolam diazepam 20mg	diazepam 10mg	diazepam 20mg	50mg
Stage 12 (1-2 weeks)	diazepam 25mg	Stop midday dose; divert 5mg each to morning and night doses	diazepam 25mg	50mg
Stage 13 (1-2 weeks)	diazepam 20mg	–	diazepam 25mg	45mg
Stage 14 (1-2 weeks)	diazepam 20mg	–	diazepam 20mg	40mg

[Courtesy - The Ashton Manual: Slow withdrawal schedules]

2.3 Management of Benzodiazepine Withdrawal State

- Long term use of benzodiazepines or other sedative hypnotics at dosage above the therapeutic dose range produces physical dependence and all drugs have similar withdrawal symptoms that may be severe and life threatening
- Therapeutic doses of benzodiazepines taken daily for months to years may also produce physiological dependence and consequently withdrawal

CHARACTERISTICS OF SYNDROMES RELATED TO BENZODIAZEPINE WITHDRAWAL

Syndrome	Signs and symptoms	Time course	Response to reinstitution of benzodiazepine
High-dose withdrawal	Anxiety, insomnia, nightmares, major motor seizures, psychosis, hyper pyrexia, death	Begins 1 -2 days after a short acting benzodiazepine is stopped; 3-8 days after a long-acting benzodiazepine is stopped	Signs and symptoms reverse 2-6 hours after a hypnotic dose of a benzodiazepine
Symptom rebound	Same symptoms that were present before treatment	Begins 1 -2 days after a short acting benzodiazepine is stopped; 3-8 days after a long-acting benzodiazepine is stopped; lasts for 7-17 days	Signs and symptoms reverse 2-6 hours after a hypnotic dose of a benzodiazepine
Protracted, low dose withdrawal	Anxiety, agitation, tachycardia, palpitations, anorexia, blurred vision, muscle spasms, psychosis, increased sensitivity to sounds and light, paresthesia	Signs and symptoms emerge 1 -7 days after a benzodiazepine is reduced to below the usual therapeutic dose	Signs and symptoms reverse 2-6 hours after a hypnotic dose of a benzodiazepine
Symptom reemergence	Recurrence of the same symptoms that were present before taking a benzodiazepine (e.g., anxiety, insomnia)	Symptoms emerge when benzodiazepine is stopped and continue unabated with time	Signs and symptoms reverse 2-6 hours after usual therapeutic dose of a benzodiazepine

- Benzodiazepine withdrawal can be treated by gradually decreasing the dosage of the agent of dependence, substituting the short acting benzodiazepine with a long acting one (e.g. diazepam or chlordiazepoxide), or with Phenobarbital substitution – a three day fixed-dose phenobarbital taper for benzodiazepine dependence was found to be safe and effective where no fall, seizures or injuries were reported and hence **might be considered**
- Flumazenil **might be considered** in the treatment of benzodiazepine withdrawal
- Valproate and carbamazepine **might be considered** in the management of benzodiazepine withdrawal seizure

2.4 Management of Benzodiazpine Dependence in Special Population

2.4.1 Pregnancy and lactation

- Benzodiazepines and metabolites freely cross the placenta and accumulate in fetal circulation.
- It is advisable to avoid use in the first trimester because of risks of teratogenicity (association with incidence of cleft palate)
- High doses or prolonged use by the mother in the third trimester may precipitate fetal benzodiazepine syndrome including floppy infant syndrome, impaired temperature regulation and withdrawal symptoms in the newborn
- Benzodiazepines are excreted in breast milk in levels sufficient to produce effects in the newborn, including sedation, lethargy, and poor temperature regulation

POINTS TO REMEMBER

Diazepam	Safe during pregnancy but not during lactation because it can cause lethargy, sedation, and weight loss in infants
Chlordiazepoxide	Use during pregnancy and lactation seems to be safe
Alprazolam	Avoid during pregnancy and lactation
Benzodiazepine as monotherapy might be considered at the lowest effective dosage for the shortest possible duration during pregnancy and lactation	

2.4.2 Older adults

- Benzodiazepine use has been associated with increased risk of falls, cognitive decline, fractures, and mortality in older adults
- It is **recommended** that therapeutic dose benzodiazepine users should be

offered minimal interventions or graded discontinuation along with psychological interventions depending on the clinical picture

2.4.3 Children and adolescents

- In children maintenance prescribing is not recommended and detoxification with diazepam **might be considered**

3. MANAGEMENT OF BARBITURATE USE DISORDERS

- During 1930s and 1940s medical use of the barbiturate derivatives grew dramatically as a hypnotic worldwide extending its arms as an anticonvulsant and anesthetic agent.
- Misuse of barbiturates and fatal overdoses became widespread globally for its strong dependent potential and narrow therapeutic window with therapeutic to lethal dose ratio varies from 1:3 to 1:30 (average 1:10), whereas approximately 1:200 for benzodiazepines.
- Therapeutic use and misuse of barbiturates began to decline with the discovery of chlordiazepoxide after 1960 and because of greater supply of another 'downer' drug, heroin by mid 1980.
- Data regarding management of barbiturate overdose/intoxication, dependence and withdrawal state are sparse. Data are mostly in the form of retrospective chart review, comparative studies, case reports and case series.

COMMONLY USED BARBITURATES

Barbiturates compounds	Route of administration	Elimination half life (in hours)	Withdrawal equivalency to 30 mg of Phenobarbital	Common therapeutic use
Amobarbital	IM, IV	10-40 (short acting)	100	Insomnia, preoperative sedation, emergency management of seizures
Butabarbital	Oral	35-50 (short acting)	100	Insomnia, preoperative sedation
Butalbital	Oral	35-88 (medium acting)	100	Marketed in combination with analgesics
Mephobarbital	Oral	10-70 (long acting)	NA	Seizure disorders, daytime sedation

Barbiturates compounds	Route of administration	Elimination half life (in hours)	Withdrawal equivalency to 30 mg of Phenobarbital	Common therapeutic use
Methohexital	IV	3-5 (ultra-short acting)	NA	Induction and maintenance of anesthesia
Pentobarbital	Oral, IM, IV, Rectal	15-50 (short acting)	100	Insomnia, preoperative sedation, emergency management of seizures
Phenobarbital	Oral, IM, IV	80-120 (long acting)	30	Seizure disorders, status epilepticus, daytime sedation
Secobarbital	Oral	15-40 (short acting)	100	Insomnia, preoperative sedation
Thiopental	IV	8 -10 (ultra-short acting)	NA	Induction and maintenance of anesthesia, preoperative sedation, emergency management of seizures

Pattern and recent trends of barbiturate abuse

- Individuals with emotional inadequacy, comorbid psychiatric illness, personality disorders or psycho-social maladjustment are at risk of barbiturate dependence
- Analgesics (e.g. Fiorinal, Sedapap etc.) marketed in combination with barbiturate are source of iatrogenic dependence
- Used in "mixed addiction" to counteract the troublesome effects of the primary substances (e.g. alcohol, heroin, methamphetamine, cocaine etc.)
- Short acting intravenous barbiturates (e.g. secobarbital, pentobarbital) are common drugs of abuse because of the immediate 'high' they produce
- Purchasing online is now a common trend

CLINICAL FEATURES

Barbiturate intoxication / overdose	Sign of CNS depression (e.g. stages of coma with flabby body parts), cardiovascular collapse (e.g. shallow and failing respirations, fall of blood pressure), renal shutdown and bullous eruptions Exhibition of 'automatism' phenomenon may leads to fatal overdose
Barbiturate abuse / dependence	**Neurological symptoms**: fatigue, dizziness, lightheadedness, lethargy, sluggishness, nystagmus, diplopia, strabismus, ataxic gait, hypotonia, diminished superficial reflexes, incoordination and positive Romberg's sign **Behavioural symptoms**: difficulty in thinking, poor memory, slowness in speech and comprehension, faulty judgment, hostility, argumentativeness, moroseness, paranoid ideas, disinhibition of sexual and aggressive impulses and suicidal ideation
Barbiturate withdrawal	Uneasiness, postural hypotension, dizziness, anorexia, vomiting, anxiety, insomnia, muscle weakness and twitching, coarse tremor, myoclonic jerks, EEG changes

3.1 Management of Barbiturate Intoxication

- No specific antidote. Use of analeptics or CNS stimulants should be avoided
- Patients with barbiturate intoxication should be hospitalized immediately with monitoring of vitals and CNS signs
- Airway, breathing and circulation (ABC) must be maintained. Use of intravenous fluid and vasopressor may be helpful to maintain vitals
- Routine gastric lavage with activated charcoal and forced alkaline diuresis with mannitol and sodium bicarbonate is **recommended** for all patients
- Hemodialysis and hemoperfusion is helpful for both long and short acting agents

3.2 Management of Barbiturate Dependence

- Decide treatment setting – inpatient or outpatient

INPATIENT MANAGEMENT IS INDICATED FOR:
- Patients taking more than 0.4 g/d of secobarbital or an equivalent dose for > 90 days or 0.6 g/d or an equivalent dose for > 30 days - Had withdrawal seizures or delirium - Phenobarbital loading has been planned - Using several drugs including opioids - Uncontrolled use - Failed outpatient treatment - With active medical complications - With serious psychiatric morbidity - Poor social support - Willingness to undergo detoxification in hospital

3.2.1 Pharmacological intervention: There are three basic strategies to treat physical dependence of barbiturates

<table>
<tr><th colspan="3">Pharmacological strategies for barbiturate dependence</th></tr>
<tr><td colspan="3">STRATEGY 1: Decrease the dose of barbiturate gradually; appropriate for dependence with low dose and long-acting agents</td></tr>
<tr><td colspan="3">STRATEGY 2: Substitute long-acting one for the existing barbiturate of use and then gradually withdraw the long-acting agent</td></tr>
<tr><th>STRATEGY 2: METHOD 1</th><th>STRATEGY 2: METHOD 2</th><th>STRATEGY 2: METHOD 3</th></tr>
<tr><td>Assess the level of tolerance</td><td rowspan="2">Calculate the estimated dose of phenobarbital or equivalent on the basis of patient's reporting</td><td rowspan="2">Titration of a loading dose of phenobarbital hourly till signs of mild intoxication starts or withdrawal symptoms disappears</td></tr>
<tr><td>Let the signs of barbiturate intoxication to go (if present) and withdrawal symptoms just to start</td></tr>
<tr><td>Start an intermediate or long acting barbiturate to stabilize the withdrawal symptoms</td><td rowspan="2">Continue the estimated dose for next 2-3 days then taper off (dose reduction of 30-60 mg of phenobarbitone or equivalent in every 2-3 days)</td><td rowspan="2">Monitor clinical signs of intoxications and/or blood concentration of phenobarbital</td></tr>
<tr><td>Continue the stabilized dose for next 2-3 days then taper off (around 10% daily dose reduction)</td></tr>
<tr><td colspan="3">STRATEGY 3: Substitution with an anticonvulsant, appropriate for comorbid seizure disorder</td></tr>
</table>

3.2.2 Psychological intervention

- In uncomplicated withdrawal, during and after detoxification with pharmacological treatment, cognitive restructuring, implementation of adaptive coping strategies, systematic desensitization, problem solving, individually or in groups **might be considered**.

4. MANAGEMENT OF Z-GROUP AND OTHER NEWER SEDATIVE-HYPNOTIC DRUGS USE DISORDERS

Z-GROUP AND OTHER NEWER SEDATIVE-HYPNOTIC DRUGS

Active ingredient	International/ National Brands	Initial doses		Half-life (hrs)
		Adults	Older adults	
Zolpidem (Extended release)	Ambient, Stilnoct, Sove-IT	10 (12.5) mg	5 (6.25) mg	2.2 (2.8)
Zaleplon	Sonata	10 mg	5 mg	1
Zopiclone	Imovane	7.5 mg	3.75 mg	5-6
Eszopiclone	Lunesta, Fulnite, Bexomer	2-3 mg	1-2 mg	6
Ramelteon	Rozerem, Ramitax	8 mg	8 mg	1.36

- There is no standard management protocol for this group itself
- Treatment is usually in the line of other sedative-hypnotic drugs

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Synopsis of the Clinical Practice Guidelines on Management of Tobacco Use Disorders

Prabhat Chand
Pratima Murthy
On behalf of the IPS-SS-SUD

2015

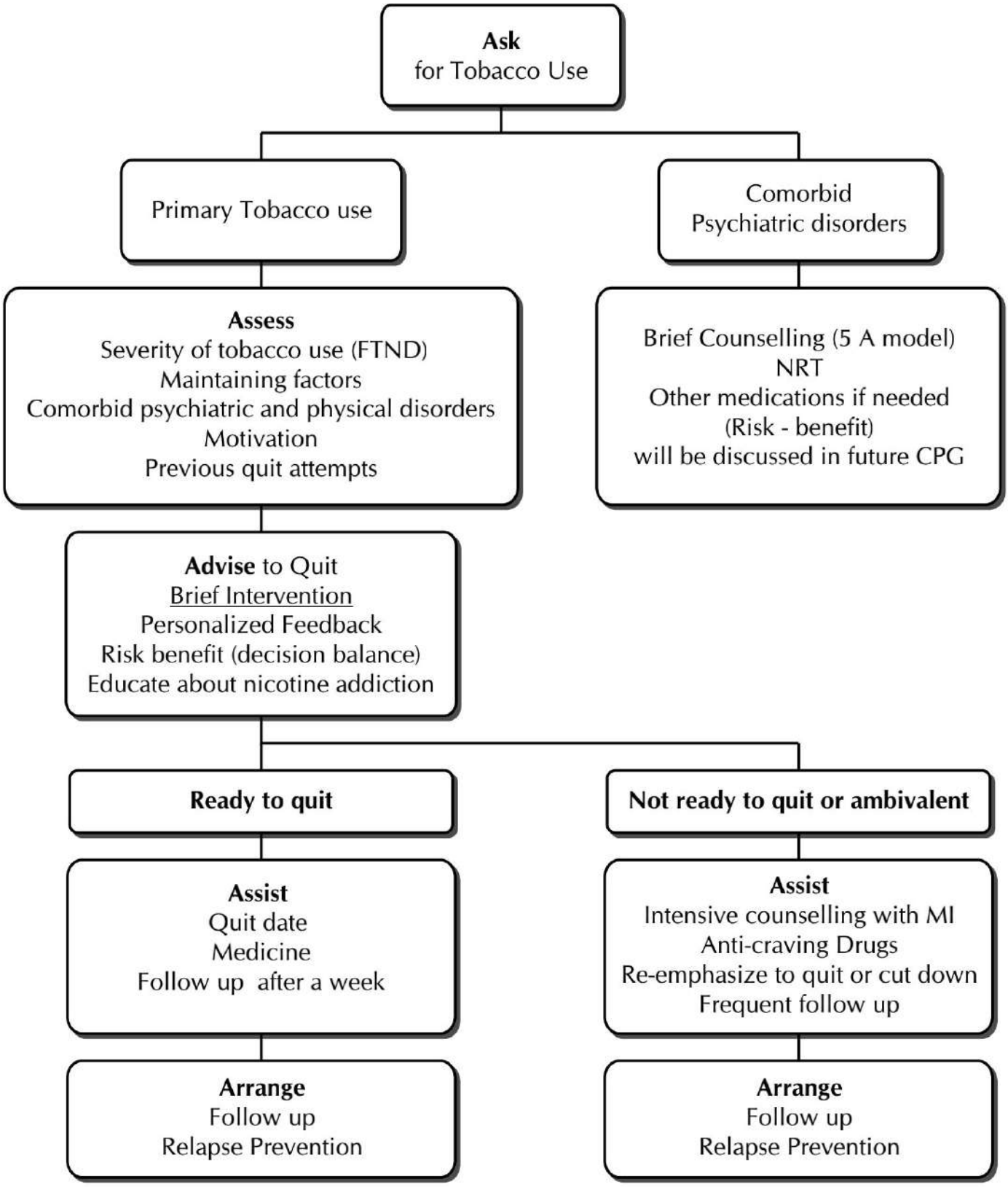
1. TOBACCO ADDICTION: FACTS

- Tobacco use is a major cause of preventable death and disease in India. Thirty five percent of adults in India use some form of tobacco. Smokeless tobacco use is more common than smoking, both in male and females.
- Nicotine, the addictive component of tobacco, binds to brain nicotine cholinergic receptors and releases a surge of dopamine.
- Dopamine, a neurotransmitter in the reward pathway, is responsible for the reinforcing effect of nicotine.
- Delivery of Nicotine from tobacco plays a significant role in its repeated use. Immediately following inhalation, smoking delivers a bolus of nicotine in the cerebral arterial circulation. Use of smokeless tobacco produces slower delivery of nicotine.
- Regular use of nicotine leads to addiction. This is clinically recognised as nicotine dependence, characterised by craving, tolerance, withdrawal symptoms, use despite harm etc.
- Much of the "relaxation and pleasure" associated with nicotine use may simply be a brief interruption of withdrawal symptoms, including restlessness, anxiety, depression, irritability, impatience, difficulty concentrating, insomnia, and increased appetite.
- Nicotine dependence is a chronic relapsing medical disorder, just like ulcerative colitis or diabetes.
- While all physicians need to manage and provide brief advice, they should network with experts who can effectively help in the management of dependence which is often associated with multiple relapses. Psychiatrists are experts who can effectively help patients in tobacco cessation.

2. NON-PHARMACOLOGICAL INTERVENTIONS

- Extremely important
- Several modalities, starting from the 5-A Model (Figure 1)
- Stage Specific interventions

Figure 1.Treatment Outline (5-A Model: Ask, Assess, Advise, Assist, Arrange)



FTND: Fagerstrom's test for Nicotine dependence (smoking and smokeless) is useful to assess the severity of nicotine dependence

2.1 MI: Motivational Interviewing (Developing discrepancy, Decision balance, self-efficacy, etc.) is a useful technique to engage the dependent tobacco user in initiating cessation

2.2 Brief Intervention

- Very effective in the practice of tobacco cessation.
- Easy to deliver by any health professional, preferably the treating doctor irrespective of the settings.
- Lasts 3-5 minutes, yet increases overall abstinence rates.
- Brief intervention should be provided to all tobacco users.

- *Advise all current tobacco users to quit*
- *Educate about tobacco addiction (a small self-help booklet useful)*
- *Link the current problem with Tobacco*
- *Provide Brief Counseling & Feedback*
- *Offer Medications to help in quitting*
- *Encourage follow-up*

2.3 Intensive Counseling

- Needs multiple sessions and ideally to be provided by trained personnel.
- The intervention depends on the motivational stage of the person.
- Objective is to increase the tobacco user's motivation either to quit or decrease tobacco use (Table 1) and prevent relapse (Table 2).

Table 1. Enhancing Motivation

Stage of motivation	What will help	What psychiatrist can do
Pre-contemplation • *Person does not want to stop using tobacco*	• Providing information about tobacco use and the benefit of quitting (Educational booklet). • Helping the person to speak about tobacco use and also its impact to the people around including himself.	• Avoid confrontation. • Educate about tobacco and other substance use (in case this is present). • Focus on rapport building. • Encourage and appreciate any expression of desire to quit tobacco (even in future).
Contemplation • *Acknowledges that there is a problem.* • *Actively considering costs and benefits of tobacco use.*	• Assessing the client's feelings and thoughts about his/her tobacco use behaviour.	• Facilitate (also provide further inputs) the analysis of pros and cons. • Help in realistic appraisal of the good and bad things about continued use of tobacco.

Stage of motivation	What will help	What psychiatrist can do
Determination/ Preparation ◆ *Feeling the need to do something about tobacco use and Making the decision to quit something to it.*	◆ Choosing to give up tobacco and committing to specific goals.	◆ Reaffirm person's ability to make the change (self-efficacy).
Action ◆ *Taking action to stop using tobacco*	◆ Achieving the goals by taking concrete steps.	◆ Help the tobacco user lay a definite plan of action for quitting

Table 2. Preventing Relapse

Techniques	Examples
Identify the high risk relapse situations	◆ Mood state, peer pressure, i.e. being around other tobacco users, risk states e.g. drinking alcohol
Learn to manage craving	◆ Identify craving, using distraction, deep breathing, drinking a glass of water, using chewing gum or cinnamon, urge surfing (Experiencing the changing nature and impermanence of urges)
Increase in problem solving ability and coping skills	◆ Learning cognitive strategies and behavioral interventions to reduce cues ◆ Anticipate negative or trigger situations and work accordingly
Make Life style changes	◆ Time management to reduce stress, improve quality of life ◆ Keeping oneself busy ◆ Staying in non-smoking locations
Learn Cognitive ways to motivate and change self	◆ Increase self-efficacy i.e. 'I can do it' ◆ Encourage self-visualisation as a non-tobacco user ◆ Understand the addictive nature of tobacco use disorders and develop confidence to overcome the addiction ◆ Encourage to take credit and feel good for not using tobacco

3. PHARMACOTHERAPY (MEDICATIONS, INCLUDING NRT)

- Interventions that combine pharmacotherapy and behavioural support increase smoking cessation success compared to minimal intervention or usual care.
- Pharmacotherapy for tobacco dependence treatment is safe and effective and significantly increases the chance for long-term smoking abstinence compared with quit attempts unaided by pharmacotherapy.

3.1 Nicotine Replacement Therapy (NRT)

- NRT (Gum, Patch, Pastilles/Lozenge, Spray, Inhaler) is a safe and effective treatment for dependence on both forms of tobacco. The first three are available in India.
- Dose is dependent on the severity of tobacco use e.g. the amount of tobacco and how early one uses in the morning.
- Adequate dosage and duration of NRT is associated with better outcome.
- Can be initiated while person is not fully decided on quitting tobacco.
- Optimal duration of treatment is three months.
- The likelihood of tobacco abstinence with NRT in case of smoking is one and half time than placebo.
- Combination of NRTs can be tried in refractory cases. (Table 3)

Table 3: Nicotine Replacement Therapy

Preparation	Dosage	Administration	Adverse effects	Advantage
Nicotine Gum/ Lozenge ***2mg, 4mg***	*< 25 cig = 2mg every 1-2 hrly* *> 25 cig = 4mg every 1-2 hrly* (maximum: 24 gums/day) Duration: 12 wks Wk 1-6:1 piece every 1-2 h Wk 7-9: 1 piece every 2-4 h Wk 10-12: 1 piece every 4-8 h	*Chew and Park Method* (chew until a tingling/peppery taste is obtained and park in the gap between gum and inner cheek. Continue till the sensation stops i.e. around 30 min) No drink 30 minute before or after the gum. Gum can be kept more than one hour in mouth before spitting out. Lozenge gets absorbed completely.	Usually Safe Mouth Irritation, Jaw fatigue, Dyspepsia hiccup	Effective in controlling withdrawal symptoms. Concomitant use of tobacco does not cause any significant problem. Can be initiated without complete stoppage of tobacco use. User can control nicotine dose.

Preparation	Dosage	Administration	Adverse effects	Advantage
Nicotine Patch ***21mg, 14mg, 7 mg***	*> 10 cigarettes/day d: 21 mg/day* *< 10 cigarettes per d: 14 mg per d* Duration : 10-12 wk Wk 1-6:21 mg/day or 14mg/day Wk 7-9: 14 mg/day or 7mg/day Wk 10-12: 7mg/day	Apply in clean, dry and non-hairy part of the body. Press the patch over the skin and press down on the margin. One patch per day. Do not stop using patch abruptly.	Local skin reactions (erythema, pruritus, burning), headache, sleep problem (insomnia/dreams)	Easy, as once per day use. Provides steady nicotine level.
Nicotine Inhaler 10-mg cartridge delivers 4 mg of nicotine per spray	*Usual: 6-16 cartridges per day Initially: 1 cartridge every 1-2 h* Duration: 12-24wk Taper in last 6-12 wk	Inhaled through the mouth. Patient should inhale into back of throat or puff in short breaths. Open cartridge retains potency for 24 h. No food or beverages 5 min before or during use.	Mouth and throat irritation	Delivers nicotine rapidly. Mimics the *"hand to mouth"* ritual of a cigarette user. Controls the nicotine delivery.
Nicotine Nasal spray	*1 spray (1 mg nicotine) in each nostril* Initial treatment is 1–2 doses per h, as needed. Typical dosing is 8–40 doses/d. Duration : 12-24wk	Nasal administration	Nasal irritation	Very fast delivery of nicotine. Most rapid delivery of nicotine.

There is lack of literature on pharmacological treatment of Bidi users. The above intervention should be effective among Bidi users also.

3.2 Non Nicotine Pharmacotherapy

Options for non-nicotine pharmacotherapy include varenicline, bupropion, nortriptyline and cytisine. The first three are available in India. Choice of drug may be determined by the presence of co-morbidity and affordability.

- Varenicline is the most effective agent for smoking cessation (one and half time more than bupropion and twice that of NRTs)
- Varenicline use has been associated with neuropsychiatric and behavioral change and thus it must be regularly monitored.

- Varenicline can be used in patients with stable psychiatric disorder under close monitoring.
- Nortriptyline, clonidine and cytisine are the low-cost treatment options.

Table 4. Dosing of Commonly Used Non-Nicotine Pharmacotherapy

Drugs	Dosage	What psychiatrist can do
Varenicline	1st to 3rd day: 0.5 mg morning OD 4th to 6th day: 0.5 mg BID 8th day to 12th week: 1mg BD Start 1 week before quit date	Well tolerated Nausea, Insomnia
Bupropion	150 mg/d for 3days, then 150 mg twice a day, Start 1 wk before quit date	Increases seizure risk in higher doses

3.3 Smokeless Tobacco

- Most research is on "Snus" (a smokeless tobacco) and there are hardly any studies on pharmacotherapy for chewing tobacco.
- Varenicline and NRT are shown to be effective.
- NRT increases short-term abstinence but only varenicline seems effective in longer term abstinence.
- Bupropion has not been significantly associated with increased tobacco abstinence
- Behavioural counseling and long term follow up increases the abstinence rate in chewing tobacco.

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Synopsis of the Clinical Practice Guidelines on Management of Inhalant Use Disorders

Anju Dhawan
Raman Deep Pattanayak
On behalf of the IPS-SS-SUD

2015

1. BACKGROUND INFORMATION

- Inhalants are breathable chemical vapors or gases abused for their psychoactive effects.
- Use mostly reported by children or adolescents. These are usually among the first drugs used by young people.
- These are available as cheap household or commercial products. Toluene is one of common constituent in many abused products.
- Inhalants can be classified into four broad types, as follows:
  (a) Volatile solvents are liquids that vaporize at room temperature if left in unsealed containers. Paint thinner, gasoline, correction fluid, nail polish remover and glue are some of examples
  (b) Aerosols are sprays that contain propellants and solvents e.g. paint, deodorant etc.
  (c) Gases e.g. refrigerants and medical anesthetics
  (d) Nitrites.
- Commonly abused inhalants in India are: ink eraser fluid/correction fluid, petrol and adhesive glue
- Inhalants can be used by various modes of administration:
  - huffing (soaking a rag and placing it on the mouth to inhale) – most common
  - sniffing/snorting (inhaling through the nose),
  - bagging (inhaling from a bag that contains the substance),
  - dusting (spraying directly into the mouth or nose).
- Acute effects of inhalants resemble that of other CNS depressants e.g. alcohol. They comprise of stimulation, disinhibition and euphoria. It may be followed by hallucinations and then a general depression including slurred speech and disturbed gait, dizziness, disorientation, and drowsiness or sleep within seconds to minutes.
- Intoxication occurs rapidly and is relatively short-lived (average elimination half-life for toluene from breath is 25 minutes). Some users may self-administer inhalants repeatedly or continuously to maintain intoxication.
- Risk factors associated with inhalant use include
  - economically underprivileged, marginalized (e.g. street children)
  - dropping out of school, delinquency
  - conduct disorder/anti-social personality.
  - drug-using /delinquent peers

- psychiatric co-morbidity
- child abuse, low parental supervision, family instability
- family history of substance dependence

◆ Most inhalant users appear to discontinue inhalants eventually, but early onset of inhalant use is associated with an increased risk of heroin use, injecting drug use, other drug use and antisocial behavior.

2. MANAGEMENT

2.1 General principles

2.1.1 *Ethical considerations*

◆ Physician must take special care to ensure that the patient's rights are not violated at any stage of treatment, more so, because patients are generally minors.

◆ If an adolescent seeks consultation on his/her own, effort must be made to approach and engage the parents (or guardians) after patient's approval.

◆ Admission must proceed only after a valid consent from the parents (or legal guardians), and if they are willing to accompany with the patient throughout the ward stay.

◆ An adolescent who is unwilling to get admitted for inhalant use must not be admitted, even if parental consent is present.

◆ Any private or personal information disclosed in confidence to the treating professional should not be disclosed to parents (unless there is a genuine threat to safety).

2.1.2 *Levels of care*

The patients using inhalants may receive various levels of care, ranging on a continuum of service intensity from

- Early intervention services, which comprise brief intervention in a health care or community settings (opportunistic)
- Outpatient treatment services, with periodic follow-up visits (weekly)
- Intensive outpatient, in which adolescents attend treatment or day-care facility during the daytime (daily basis)
- Residential/ in-patient treatment services (few weeks to few months)
- Medically-managed intensive inpatient, which is most appropriate for adolescents with substance use, medical, and/or psychiatric problems warranting intensive, supervised care.

A critical issue in treatment of inhalant use is whether inpatient or outpatient

treatment is the more appropriate. Certain clinical considerations may facilitate the decision (refer box 1 and 2).

Box 1: Clinical considerations: Outpatient treatment

Out-patient treatment is particularly suitable for patients:

(a) If the use is occasional or less frequent
(b) If the use is of shorter duration (few months)
(c) If there is mild or moderate dependence
(d) If the treatment is being sought for first time, no prior failed attempts
(e) If there is no significant health damage
(f) If there is no concurrent abuse/dependence on other substances
(g) If the functioning at school or home is relatively preserved
(h) If there is a good social support system
(i) If patient stays in close proximity of treatment services

Box 2: Clinical considerations: In-patient treatment

In-patient treatment is more appropriate:

(a) If there is a severe dependence
(b) If the patient is using inhalants for a prolonged duration (few years)
(c) If there are multiple failed abstinent attempts in the past
(d) If there are significant health complications
(e) If there is a concurrent use of multiple other substances
(f) If there is severe dysfunction at home or school
(g) If the family support is absent/minimal, and/or presence of familial psychopathology interfering with treatment and care
(h) Geographical distance from treatment centre

2.1.3 Treatment goals

The goal of treatment in case of inhalant users is complete abstinence in view of severe and life-threatening health risks.

- Immediate goals may be establishment of rapport, detoxification and intervention for a psychosocial and medical crisis.
- Short-term goals may include management of co-morbid conditions and re-integration with family.
- Long-term goals consist of relapse prevention, vocational skills acquisition or an improvement in overall quality of life.

However, it is also acknowledged that inhalant users are one of most elusive, and difficult groups to retain in treatment.

Therefore, while working for an ultimate goal of abstinence, these users must also be provided with the necessary health education aimed at harm minimization (refer Box 3). Although not considered as a mainstream treatment approach in the context of inhalant use, it has been used to reduce the risks associated with inhalant use.

Box 3: Harm minimization

- Do not use inhalants with a bag on the head (bagging) to avoid suffocation
- Avoid using inhalants when alone or in secretive, enclosed spaces e.g. cupboards
- Avoid use of inhalants when you are smoking or near a lit cigarette or lighter
- Do not drive (for the next several hours) after using inhalants
- Avoid concomitant use of other drugs to prevent overdose
- Use inhalants from small bottles with small surface areas to minimize exposure
- Do not use inhalants immediately before exercise or physical exertion to reduce risk of arrhythmias and sudden death
- If someone is using inhalants, do not unnecessarily alarm or chase them, to reduce risk of sudden death which is more common if heart rate is elevated
- Call emergency medical services if the person shows unusual symptoms or behavior, e.g., agitation, seizure, disorientation or loss of consciousness.

2.1.4 Phases of treatment

(1) In the *early phase of management* of inhalant users, two issues that require particular attention are

(i). ***Medical management for health damage***, if any: Depending on severity of inhalant use, there may be complications in a number of body systems, including the brain, heart, lungs, kidneys, liver, and blood, which need a thorough assessment, management and multiple referrals.

(ii). ***Management of withdrawals ('detoxification')***: There may also be some withdrawal symptoms which are generally non-specific, although craving may be prominent, and require supportive care. Inhalants are lipophilic and can stay in fatty tissue of the body for weeks; therefore detoxification periods could

extend for a month or even more. Unless the patient is comfortable, it will be difficult to engage him/her in the therapeutic aspects of treatment Patient may also have some mistrust, resistance and dilemmas for treatment in the initial phase, which need to be resolved. Therefore, in the initial phase, emphasis should be on

- building a therapeutic alliance (rapport)
- basic supportive care (rest, nutrition, calm environment etc)
- use of analgesics and sedatives, if required,
- general counseling
- involvement of family
- provision of education to patient (and families)

(2) *Long term psychosocial treatment* can be initiated once the patient is comfortable and more receptive, and may need to be continued for a prolonged duration.

2.2 Assessment and diagnosis

2.2.1 *Screening*

Many a times, the diagnosis of inhalant abuse relies almost entirely on a high index of suspicion. (Box 4).

Box 4: Clinical pointers for suspected inhalant use

- Any discernible or unusual odor or stains on fingernails, body parts or clothes
- Presence of sniffer's rash around nose and mouth, rhinorrhea, injected sclera
- Appears to be under influence of a drug (e.g. drowsiness, incoordination)
- Deterioration in physical appearance
- A recent change in child' behavior
- Drop in school performance/ frequent absenteeism
- Impairments in attention, memory or other cognitive functions
- Secretive behavior regarding actions and possessions
- Unusual borrowing/stealing of money from home or friends

2.2.2 *Thorough history and examination*

Besides the immediate reasons for presentation, a thorough history should cover following aspects:

- nature, type, frequency, duration, mode of administration of inhalants and/or co-occurring substance use

- reasons for initiation/continuation
- acute effects, withdrawals (if any), tolerance, craving
- time spent on drug use, neglect of alternate activities, drug-using peer group (if any)
- consequences of drug use (physical, psychological, familial, school, social, legal),
- abstinence attempts
- co morbid psychiatric disorders, if any (e.g. depression, psychosis, conduct disorder, attention deficit disorder, learning disorders, borderline intelligence etc)
- family history, personal history (including educational/vocational and sexual history) and pre-morbid temperament/ personality.
- assessment of family dynamics, inter-personal relationships and communication styles is required for child/adolescent inhalant users seeking treatment.
- general physical and systemic examination should be conducted diligently in all users and any discernible abnormality recorded.
- mental state examination should be conducted routinely in all inhalant users covering aspects of alertness and orientation, behavior, speech, affect/mood, thought, perception, and higher cognitive functions (attention and concentration, memory, intelligence, abstraction, judgment, insight.

The sexual history, including high-risk sexual behaviors, should be taken from all patients. If indicated, laboratory investigations to rule out sexually transmitted infections (including HIV-ELISA) may be considered. Possibility of sexual abuse should be considered in vulnerable users e.g. street children using inhalants and other substances.

2.2.3 *Assessment of health damage*

- Various health complications related to use of inhalants have been shown in Box 5. A comprehensive clinical assessment must be performed.
- Neurological toxicity is the most recognized adverse effect of chronic inhalant abuse.
- Laboratory tests and imaging studies (including MRI brain) and neuropsychological examination should be performed, if indicated. Specialist referral and consultation must be sought for a medical complication.

2.2.4 *Diagnosis*

- The diagnostic criteria in current classificatory systems (ICD 10 and DSM 5) for inhalants are essentially the same as for rest of the substances.

- Unlike ICD-10, however, the DSM-5 diagnostic criteria do not acknowledge the presence of withdrawals for inhalant use disorder.

Organ system	Complications
Neurological	Encephalopathy (acute/chronic), cerebellar ataxia, cranial and peripheral neuropathies, parkinsonism, tremor, visual loss/optic neuropathy, white matter degeneration/atrophy
Neuropsychiatric & neuropsychological	Apathy, dementia, depression, psychosis Memory deficits, deficits in attention and executive functions, reduced speed of information processing
Cardiovascular	Dysrhythmias, hypoxic-induced heart block, myocardial fibrosis Sudden sniffing death syndrome (due to sudden release of catecholamines resulting in ventricular fibrillation)
Respiratory	Cough, wheezing, dyspnoea, emphysema, pneumonitis, Goodpasture's syndrome
Abdominal	Hepatotoxicity, nausea and vomiting
Renal	Acid-base disturbance, acute renal failure, renal tubular acidosis, Fanconi's syndrome
Haematological	Aplastic anemia, bone marrow suppression, leukaemia
Dermatologic	Burns, contact dermatitis, peri-oral eczema
Reproductive/ Fetal exposure	Low fertility, Increased risk of abortion, possible neonatal withdrawals, low birth weight and craniofacial abnormalities, growth retardation and cognitive/speech/motor deficits in later life

2.3 Management of Inhalant Intoxication

The treatment recommendations for inhalant intoxication (Box 6) have been summarized below:

- Basic supportive case; Ensure safety
- Careful monitoring of the intoxicated patient, on following parameters:
  - blood pressure, pulse rate , respiratory rate
  - temperature
  - oxygen saturation
  - orientation to time, place, person
  - level of consciousness
  - changes in mood and behavior

Box 6: DSM-5: Inhalant Intoxication

A. Recent intentional use or short-term, high-dose exposure to volatile inhalants.

B. Clinically significant maladaptive behavioral or psychological changes that developed during or shortly after inhalant use or exposure.

C. Two (or more) of the following signs, developing during, or shortly after, inhalant use or exposure: dizziness, nystagmus, incoordination, slurred speech, unsteady gait, lethargy, depressed reflexes, psychomotor retardation, tremor, generalized muscle weakness, blurred vision or diplopia, stupor or coma, euphoria.

D. The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder.

- Environment should be calm, quiet and reassuring, with minimal stimulation (to reduce the risk of cardiac arrhythmias and arrest which may be precipitated by undue alarm)
- Speak in a calm, non-threatening voice
- Physical restraints should not be used
- Use of sedatives should be avoided
- Complications, if any, resulting from inhalant use (e.g. metabolic acidosis) must be treated by specific treatment measures after appropriate referral/consultation
- Emergency medical care should be arranged or provided immediately if there are any danger signs e.g. breathing difficulty, circulatory failure, loss of consciousness.
- Patient can be discharged from medical care (under supervision of a guardian) when the symptoms have fully recovered (usually < 4-6 hours if uncomplicated)
- Advise the family member or caregiver to keep monitoring the patient for at least 24 hours

2.4 Management for Inhalant Withdrawals

Inhalant withdrawals are experienced by regular users of inhalants, usually within 24 hours of cessation. Often, the withdrawal symptoms are mild, and may last from 2-5 days. Craving for inhalants may, however, last for a few weeks.

Inhalant withdrawal symptoms can be managed by basic supportive care and symptomatic medical management. Treatment recommendations are summarized below:

- Ensure a quiet and supportive environment
- Ensure hydration, by means of adequate oral fluids; and regular meals.
- Pharmacological treatment should be on symptomatic basis only, with close monitoring.
- Analgesics (e.g. paracetamol, ibuprofen) can be given for headache or somatic pain/s.
- Benzodiazepines (e.g. lorazepam) may be used to manage the anxiety, agitation and sleep disturbances for a short period. Gradual taper is advised to minimize the discomfort to patient.
- Monitor for any sudden change in patient's state, which may need immediate medical assessment and referral.
- No evidence, apart from a case series, on any specific pharmacotherapy to manage inhalant withdrawals

3. PSYCHOSOCIAL INTERVENTIONS

Psychosocial treatment should be offered to all inhalant users.

3.1 *General considerations*

- Ideally, patients using inhalants should receive multi-disciplinary care (psychiatrists, psychologists, social workers, trained nurses).
- It is important to have a network of referral sources such as the school counselors, welfare organizations, law enforcement officials, homeless shelters etc which can refer the patient for help.
- Psychological interventions for inhalant users should be kept as brief (e.g., 20-minute sessions) in the initial few months. This is because the attention span and other cognitive functions are often impaired to a varying degree.
- Extensive involvement of the family is required, in view of younger age of patients.
- It is important for this purpose to identify one or more key family members who can be educated about the nature of the disorder, the treatment process and recovery.
- When dealing with underprivileged children living on the streets who constitute a substantial percentage of inhalant users, family members are often absent and NGOs may play the role of surrogate guardians
- Deviant or drug using peers have a powerful influence on adolescent drug use. It is often necessary to work towards building an alternate group of non-drug using friends in the course of therapy.
- Emphasis should be placed on retry into school and school re-adjustment issues

- Vocational skills training for older inhalant abusers to promote self-sufficiency should be part of the management.
- The management should also focus on imparting life skills training e.g. how to handle money, personal affairs and handle problematic situations efficiently
- Extensive aftercare and follow-up period, extending as many as 2 years, is advisable.

3.2 *Specific therapies*

3.2.1 *Brief Intervention*

- Brief Intervention, using motivational interviewing, should be provided, as and when, there is an opportunity and contact with health professionals.
- Motivational interviewing is a non-confrontational, client-centered approach, which is employed. There are six elements critical to a brief intervention , summarized as the acronym FRAMES:
  - Feedback is given about personal risk or impairment (using information gained from questionnaire scores or blood investigations)
  - Responsibility for change is placed on the patient.
  - Advice to change is given in clear terms
  - Menu of alternative treatment options is offered
  - Empathic style is followed
  - Self-efficacy is encouraged

3.2.2 *Targeted education*

It must be provided to all inhalant users and their families aimed at

- provision of information about the harmful effects of inhalants
- harm minimization (Box 3)
- management of intoxication, and
- resources to get more information

3.2.3 *Cognitive-behavioral therapy (CBT) based approaches*

Both individual and group CBT has been shown to be effective in treating adolescent substance use disorders. CBT-based approaches should have certain common features, as follows:

- Employing motivation-enhancing techniques to establish a strong treatment alliance and improve treatment engagement and retention
- Performing a functional analysis to identify patterns of inhalant use, skills deficits, and dysfunctional attitudes and thoughts

- Enhancing coping strategies to effectively deal with craving and negative moods
- Strengthening problem-solving and communication skills and the ability to anticipate and avoid high risk situations; and
- Identifying enjoyable activities incompatible with drug use/alternate recreational pursuits.
- New skills and coping strategies are initially taught and practiced during therapy sessions, then applied to the patient's daily life in 'homework' assignments, with a review of successes and setbacks the following week.
- Typically, the sessions are delivered on a weekly basis, ranging between 5-16 sessions

CBT-based brief interventions, typically between 1-4 sessions, have also been used.

3.2.4 *Supportive psychotherapy*

There is some role for supportive psychotherapy, particularly among the patients in whom CBT is not feasible. Issues focused in such therapy include:

- positive and negative life events in family
- expectations and disappointments about family
- information about substance abuse
- educational levels and expectations from education
- communication styles in interpersonal relationships
- positive and negative life events in interpersonal relationships
- evaluation of problem solving skills and its restructuring
- expectations from the future
- creating alternatives about what can be done in the future.

3.2.5 *Narrative therapy*

- An informal approach that can be of assistance for adolescents showing resistance to traditional psychotherapies.
- It involves an informal interactive conversation through the use of stories.
- It explores how the adolescent forms and links these stories to make meaningful conclusions.
- In an intervention developed in India for out-of-school/street children with inhalant use (Box 7), story-telling method in one of sessions, proceed as follows:

Children are shown six pictures based on which they are expected to build a story. The six scenes depict the child

(1) with the family

(2) on the railway station (running away from home)

(3) with his new peer group

(4) using inhalants

(5) depicting problems due to drug use –social, legal or health related and lastly,

(6) a blank picture that has to be filled up by the child depicting what should happen to change the outcome to a more desirable one.

The last blank card facilitates processing.

Box 7: Intervention for out-of-school/street children with Inhalant use developed in India

The six sessions of the intervention are delivered in groups of 5-10 children over five half days (or 2-3 full days). Intervention uses role play, forum theatre, story-telling and other innovative and engaging methods to deliver the sessions.

The themes of the sessions are as follows:

1. Functional analysis of pro-social activities and substance use behaviour
2. Motivation enhancement and harm reduction
3. Life skill Training (drug refusal skills and enhancing self-esteem)
4. Health management and knowledge of harms or perceived benefits of inhalant use
5. Money management and healthy recreational pursuits
6. Relapse Prevention and role of networks and family in preventing relapse

3.2.6 *Contingency management*

- Adolescents often enter treatment because their parents, school, or the judicial system require it.
- In this scenario, contingenecy interventions may offer clear incentives and positive reinforcers for quitting.
- Such interventions could be effective additions or alternatives to clinic-based treatments of adolescent substance users.

3.2.7 *Person-centered general counseling*

- Non-directive approach to psychotherapy
- It is based on premise that person may be able to understand the cause of their problems after reflecting on their thoughts and feelings.
- This form of therapy does not recommend any particular course of action to the patient and instead, assists him/her to take responsibility for themselves.

3.2.8 *Family based approaches*

The role of family in adolescent inhalant users is much more important than adult substance users.

- Parents are taught about the monitoring skills and basic behavioral management principles, together with strategies to improve overall family functioning and sustain the gains of treatment.
- Even when structured family therapy is not feasible, an attempt must still be made to engage and involve the family in treatment process.
- A range of family interventions should be used in routine clinical care of adolescents , including family education (including information on harm minimization) and family counseling.
- The aims of family-inclusive clinical practice is:
  - provision of information to family members and caregivers
  - ensure their involvement in treatment process and care
  - seek their help to enforce behavioral strategies at home
  - minimize expressed emotions
  - make the family environment and relationships conducive to recovery of inhalant users

3.2.9 *Activity and engagement based approaches*

- Use of recreation or activity-based strategies (e.g. arts training, cultural evening, outdoor excursions etc where meals were also provided) to engage children in therapeutic relationships.
- These may be especially useful for homeless street children. Participation in at least 3-5 sessions was found to be optimal.

3.2.10 *Life Skills based approaches*

- Life skills are abilities for adaptive and positive behavior, that enable the individual to deal with problems and challenges of life.
- As inhalants are usually started early in life, the basic life skills are often deficient in inhalant using children.

- Several treatment approaches have used various life skills as one of the components of a multi-modal intervention.
- For example, activities aimed at money management, designed to allow the children to reflect on various alternate/healthy ways of spending money and thus, increase options of spending money. It may be especially useful for street children who often do not have concept of managing money and end up using all day's income on using inhalants and other drugs.

3.2.11 *Residential rehabilitation*

- Suitable only for chronic, heavy users of inhalants (with or without multiple substance use) for whom other treatment options have shown multiple failures.
- Multi-modal programs, which incorporate a range of components such as counseling, education and life skills.
- An extended 6-12 month residential treatment program utilizes a modified therapeutic community for adolescents with inhalant use and related problems.

4. LONG TERM PHARMACOTHERAPY

- Available literature on pharmacological treatment of inhalant use disorders is almost non-existent, except for a few case reports.
- There is an insufficient evidence for using a pharmacological agent for long term treatment.

5. MANAGEMENT OF CO MORBID CONDITIONS, IF ANY

- Careful history and mental state examination (especially for attention deficit/hyperactivity disorders, learning disorders, oppositional defiant disorder, conduct disorder, etc).
- Inhalant-induced psychiatric disorders are likely to subside with supportive treatment and maintenance of abstinence. Specific psychotropic medications are not warranted, unless the symptoms are severe, risky or life-threatening.
- Inhalant users are more likely to have underlying neurological damage, and consequently, may be more susceptible to develop adverse effects. May avoid typical antipsychotics.
- Medication, if needed, must be started at low dose and increased very gradually (start low, go slow) with close monitoring.

To conclude, Inhalant users continue to remain a largely hidden population, with very few treatment seekers. The absence of requisite expertise, child-friendly services or specific pharmacotherapies makes it difficult to retain patients.

Nonetheless, efforts must be made to engage the patient and families, if available, using a wide range of psychosocial interventions and supportive care. Treatment must be continued for long term.

Suggested Reading

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Synopsis of the Clinical Practice Guidelines on Management of Dual Diagnosis

Debasish Basu
Siddharth Sarkar
On behalf of the IPS-SS-SUD

2015

1. DUAL DIAGNOSIS – BASIC ISSUES

- Dual Diagnosis: Co-occurrence of a substance use disorder with a non-substance psychiatric disorder, e.g., cannabis dependence with schizophrenia, alcohol dependence with bipolar disorder, benzodiazepine dependence with agoraphobia, etc.
- Other equivalent terms:
  - chemical abuse and mental illness (CAMI)
  - substance abusing mentally ill (SAMI)
  - mentally ill chemical abusers (MICA)
  - mentally ill substance abusers (MISA)
  - co-occurring substance use and mental disorders (COD)
- Associated with poorer prognosis than either substance use or psychiatric disorder in terms of:
  - Longer hospital stay
  - Early recurrence of illness
  - Greater risk of comorbid medical illness
  - Greater risk of violence
  - Greater risk of suicide
- Relevant, as service delivery of substance use disorders and other psychiatric disorders vary
- Substance use disorders combine in various ways with different psychiatric disorders to produce a range of dual diagnosis

Representative psychiatric disorder	Substance of use	Substance use disorder
Schizophrenia	Alcohol	Harmful use
Schizoaffective disorder	Tobacco	Dependence
Bipolar disorder	Opiates	Intoxication
Major depression	Cannabis	Withdrawal
PTSD	Cocaine	Substance induced psychosis
Panic disorder	Volatile solvents	Substance induced amnesic state
Generalized anxiety disorder	Sedative hypnotic	Residual and late onset psychosis
Somatization disorder	Stimulants	
Personality disorders	Hallucinogens	

1.1 Epidemiology

- Co-occurrence of substance use disorder and other psychiatric disorder more frequent than by chance

- Association borne out by large scale epidemiological studies: ECA, NCS, NESARC
- Other clinic based/ disorder focused studies also support the same

1.2 Specific difficulties faced while managing dual diagnosis patients

- Poor motivation for treatment and non-engagement to treatment process
- Which disorder to tackle first (substance use or psychiatric)?
- Where to manage: de-addiction facility or general psychiatry?
- Whether to provide substance use treatment during involuntary admission for psychiatric disorder?
- Some patients use substances to self-medicate psychiatric symptoms
- Medical co-morbidities may require attention
- Drug-interactions between substance of use and pharmacological agents for treatment of psychiatric condition
- Rehabilitation requirement for associated social problems like poor social supports, homelessness etc.

1.3 Four-quadrant Model

Severity of substance use disorder and psychiatric illness need to be assessed, as in four quadrant model, which determines the aims and goals of management:

High mental illness severity High substance use severity	High mental illness severity Low substance use severity
Low mental illness severity High substance use severity	Low mental illness severity Low substance use severity

2. AIMS AND GOALS OF MANAGEMENT

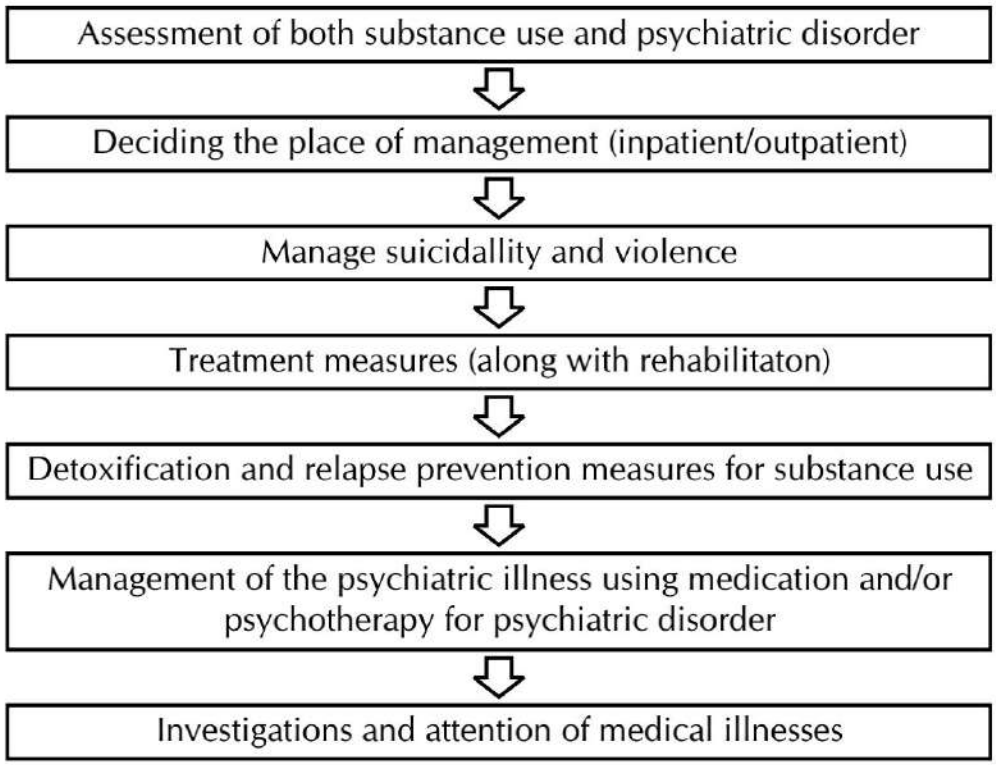
- Address acute and life threatening conditions (substance intoxication and withdrawal, psychiatric symptoms like suicidality, medical illness)
- Promote abstinence from substance of use
- Control the symptoms of psychiatric disorder
- Address the comorbid medical illnesses if any
- Increase motivation for recovery
- Enhance coping and teach relapse prevention skills
- Improve socio-occupational functioning
- Promote maintenance of recovery through continued treatment and/or participation in self-help groups

Goals of treatment vary according to individual patient and can be modified / revised from time to time.

The decision about treatment setting (inpatient or outpatient) needs to take care into account:

- Acute psychiatric symptoms in the form of suicidality and active psychotic symptoms
- Violent behavior of the patient
- Severity of withdrawal symptoms/ intoxication
- Associated medical illnesses
- Severity of substance dependence
- Prior abstinence attempts
- Motivation status of the patient
- Presence of social supports
- Patient and physician preference

3. PATIENT TREATMENT FLOWCHART



ASSESSMENT

- Clinical history:
  - substance use disorder – types of substances used, onset, progression, complications, abstinence attempts, relapses

- psychiatric illness – onset, clinical features, course, threat to self and others, dysfunction due to illness, past treatment and response to medications

- Physical examination
- Look for effects of substances
- Withdrawal signs
- Assessing risk: For both violence and suicide
- Scales and instruments: For psychiatric illness (e.g. PANSS, BPRS, YMRS) and substance use disorder (Drug Abuse Screening Test, ASSIST)
- Investigations: Based upon type of substances being used. e.g. Hemogram, liver functions, ultrasound abdomen for alcohol use disorders; Hepatitis B & C, HIV for intra-venous drug users; dual diagnosis patients are more likely to have additional medical comorbidities
- Assessment also gives an opportunity for motivation enhancement for patients who are poorly motivated for the treatment of their substance use disorder.

For convenience, dual diagnosis can be broadly classified into: Psychotic dual diagnosis and Non-psychotic dual diagnosis.

4. PSYCHOTIC DUAL DIAGNOSIS

- Mainstay of pharmacological treatment of psychotic illness: Antipsychotics - typical or atypical
  - Selection of drug based upon side effect profile, previous treatment response, patient preferences
  - Dual diagnosis patients are at increased risk of developing extrapyramidal side effects
  - Evidence has accumulated about the use of: olanzapine, risperidone, quetiapine, clozapine, aripiprazole, flupenthixol, zuclopenthixol
  - Some antipsychotics may reduce craving for substances (aripiprazole may reduce cocaine craving)
  - Attention should be paid towards drug interactions: drug for psychotic illness and drug for substance abuse treatment; drug for psychotic illness and substance itself
- Add-on treatment: Sedative hypnotics (diazepam, clonazepam), mood stabilizers (lithium, valproate) and antidepressants (fluoxetine or imipramine) might be used in select cases
- For substance use disorder:
  - Detoxification treatment should be begun along with the treatment of substance use disorder.

- Bupropion and varenicline are effective for smoking cessation in patients with schizophrenia and nicotine dependence.
- Nicotine replacement therapy efficacious in patients with tobacco dependence and psychosis
- Naltrexone beneficial in patients with schizophrenia and alcohol use disorder
- Caution about risk of exacerbation of schizophrenia with disulfiram and baclofen, though some patients with schizophrenia have received disulfiram without worsening of psychosis
- Opioid substitution therapy can be safely used in patients with schizophrenia and opiate dependence

- Non-pharmacological measures
  - CBT has been shown to be effective
  - CBT can be coupled with motivational interviewing, family intervention
  - CBT can also be provided in group format for substance users with psychotic illnesses
  - Contingency management useful for reducing tobacco usage in this population
  - Family intervention and family psychoeducational programs helpful

5. OTHER (NON-PSYCHOTIC) DUAL DIAGNOSIS

- Includes major depression, bipolar disorder, anxiety spectrum disorders etc.
- Antidepressants shown to be effective in patients with depression or dysthymia and alcohol use disorders
- SSRIs and TCAs act equally well in depression with alcohol dependence
- Antidepressants may not be effective in patients with depression and opioid use disorder
- Escitalopram monotherapy as effective as in combination (with buproprion or mirtazapine) in patients with depression and substance use disorder
- Venlafaxine effective in patients with depression and cocaine use
- Nefazodone may reduce symptoms of depression and cocaine craving
- Among bipolar disorder patients, lithium and valproate shown to improve outcomes for bipolar disorder as well as substance use disorder
- Add-on quetiapine does not offer superior outcomes in patients with bipolar disorder in terms of measures of substance use
- ADHD: Atomoxetine, pemoline effective for control of ADHD symptoms, but

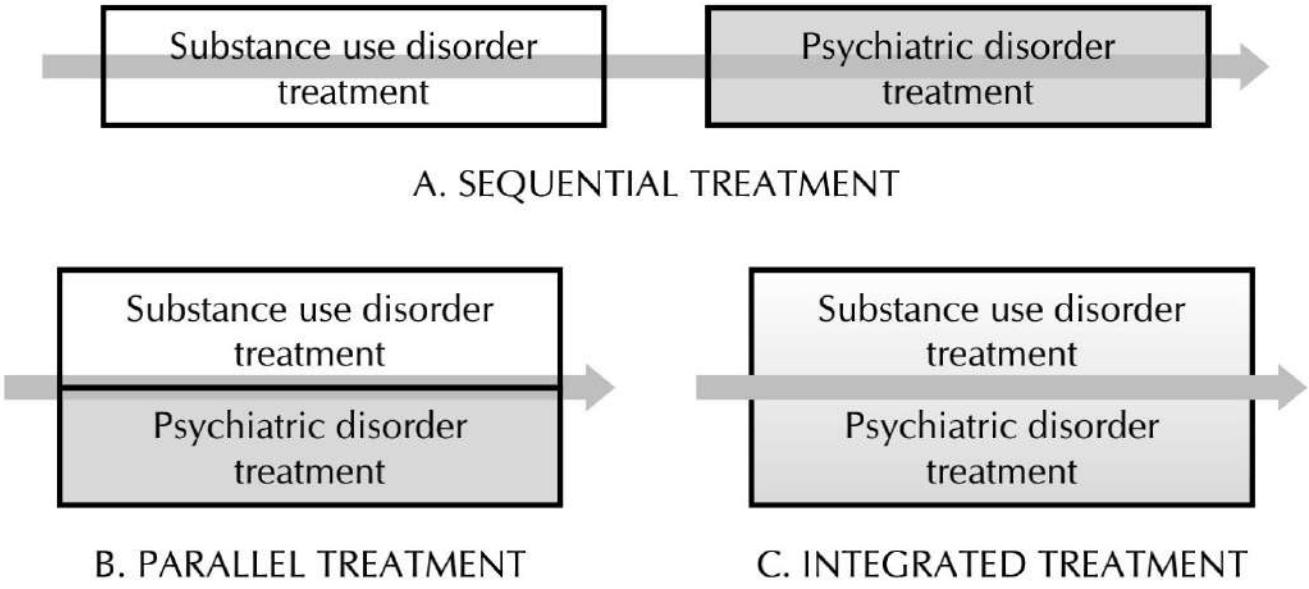
not for substance use; methylphenidate which had potential for abuse, not significantly better than placebo in reducing substance use.

- Social anxiety disorder with alcohol use disorder: paroxetine has demonstrated benefits in reducing anxiety symptoms as well drinking habits
- Avoid benzodiazepines in patients with substance use and anxiety/ depression as they have a higher propensity for dependence
- Withdrawal symptoms (e.g. of alcohol dependence) may be confused with symptoms of anxiety disorder: in such situations, better to wait for detoxification to be over before establishing a diagnosis of anxiety disorder
- Treatment of alcohol use disorder using acamprosate, naltrexone, disulfiram or baclofen
- In patients with PTSD, naltrexone, disulfiram and combination of two more effective than placebo
- Psychotherapy
  - Integrated treatment for substance use disorder and psychiatric illness, 'dual focused therapy': e.g. integrated CBT, focusing on both the disorders
  - Variants of CBT: Integrated Cognitive Behavioral Therapy, Behavioral Therapy for Depression in Drug Dependence, Trans-diagnostic Cognitive Behavior Therapy
  - Twelve Step Facilitation approaches useful
  - Motivational interviewing important component of treatment
  - Dialectical behavior therapy for substance use disorder and personality disorder
  - Group based treatment can be utilized
  - Contingency management and vocational rehabilitation improve substance use and socio-occupational outcomes
  - Therapeutic community helpful for patients with dual diagnosis

6. SERVICE DELIVERY

- Treatment service delivery can be: sequential (one disorder after the other), parallel (both the disorders simultaneously but by different experts) or integrated (both the disorders simultaneously by same expert)
- Integrated treatment is the best approach among the three
- Assertive Community Treatment (ACT) extends the integrated treatment to the community, is associated with better outcomes than standard case management

Figure: Service delivery formats



- High service intensity associated with better outcomes
- Treatment of dual diagnosis patients in the therapeutic community/ ACT may be high, but expenses are offset by the indirect benefits as a result of the treatment
- Training of the treatment providers is associated with improved staff self-efficacy and knowledge about dual diagnosis, though increased knowledge of staff however may not translate into better patient outcomes

7. SPECIAL POPULATIONS

- Prison population
  - A large proportion of prison population may have substance use disorder along with psychiatric disorder
  - Interventions inside the prison targeting substance use disorder resulted in lower chance of relapse after
  - Diversion of patients with acute psychiatric symptoms for treatment services may result in immediate benefit to the patient without risk to the community
- Homeless population
  - Contingency management results in less substance using behaviors
  - Therapeutic community for homeless dual diagnosis patients resulted in less psychiatric symptoms and substance use over follow up

Suggested Reading

Basu D, Gupta N. Management of "dual diagnosis" patients : consensus, controversies and considerations. Indian J Psychiatry 2000;42:34–47.

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Synopsis of the Clinical Practice Guidelines on

Substance Use Disorders

The book titled "Clinical Practice Guidelines for the Assessment and Management of Substance Use Disorders" (CPG-SUD) was published by the Indian Psychiatric Society Specialty Section on Substance Use Disorders in January 2014. It was the culmination of intensive year-long efforts of a group of dedicated psychiatrists working in the field of substance use disorders in various reputed academic medical institutes of India. Since its publication in 2014, the CPG-SUD book has been well received by clinical practitioners, researchers, academicians, and psychiatric students, i.e., by all the target groups that book was meant for.

However, it became quickly apparent that there was a need for a more concise, practice-oriented, easy-to-follow "Synopsis" of the comprehensive CPG-SUD book as well. A need was felt for a set of compact, precise, yet evidence- and expertise-based guidelines.

This is the genesis point for this current slim volume. Easy-to-carry in a pocketbook sized format, and easy-to-use with clear tables, panels, boxes and algorithms, it is a perfect supplementary companion of the comprehensive CPG-SUD book. It synthesizes all the practice-relevant information necessary for the assessment and management of common substance use disorders and dual diagnosis. In order to maintain comparability and consistency with the CPG-SUD book, it contains the same chapters in the same order: assessment of substance use disorders in general; alcohol use disorders; opioid use disorders; cannabis use disorders; sedative-hypnotic use disorders; tobacco use disorders; inhalant use disorders; and dual diagnosis. A short list of key references/further reading is provided at the end of each chapter.

CPGs are meant to inform, assist and "guide" the clinician, not to ask them to sacrifice their autonomy of clinical judgment, nor to be oblivious of the individual patient's clinical situation and psychosocial context. With this disclaimer and caveat, however, we believe that this "Synopsis", when properly used along with clinical training in addiction psychiatry, can be a very useful and handy companion to the students, clinicians and even teachers in their day-to-day practice.

P.K. Dalal, Debasish Basu (Editors)

Indian Psychiatric Society
Specialty Section on Substance Use Disorders