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Disorders due to Substance Use in ICD-11: diagnostic guidelines and key changes

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WHO and Health Classification



- Core constitutional responsibilities of WHO include development and maintenance of international classifications for health; standardization of diagnostic procedures.
- WHO Member States agree to use ICD as standard for collection and reporting of health information.
- Member states also use the ICD to define their obligations to provide free or subsidized health care to their populations.

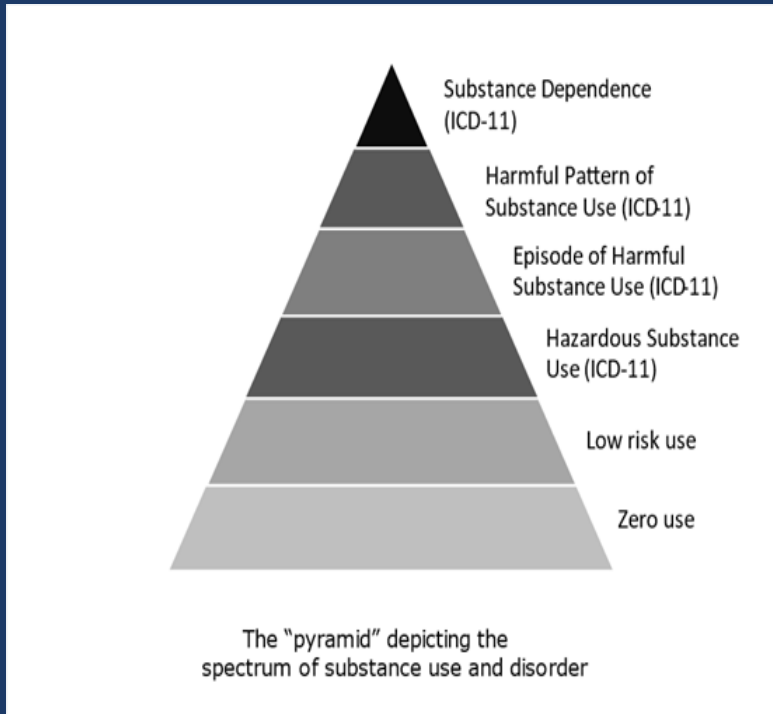
Declaration of Interests: John B. Saunders

- I have worked in some capacity as an advisor to the World Health Organization since 1981.
- From 1987 to 1994 I was a member of the ICD-10 Substance Use Disorders Work Group.
- For the development of ICD-11 I have been an advisor from 2007 onwards and a member of the Substance Use Disorders Work Group.
- I have also contributed to the development and review of DSM-IV substance use diagnoses. I was co-chair of the research phase working group of DSM-5, but not involved in the editorial working group.
- I have not received any remuneration in relation to this presentation.
- I have no conflicts of interest to declare.

Introduction and Overarching Changes I

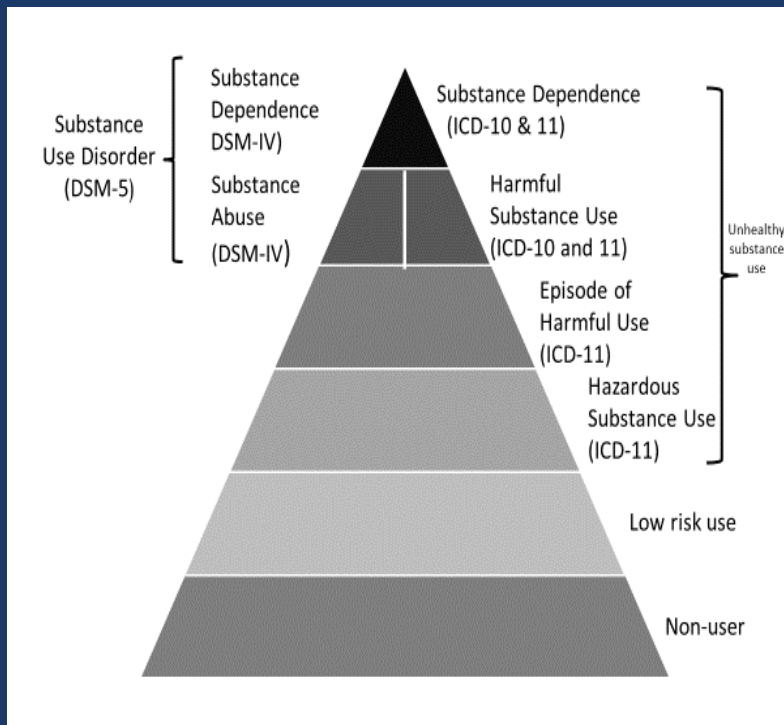
1. The ICD-11 includes a new grouping of conditions entitled Disorders due to Substance Use and Addictive Behaviours.
2. These conditions relate to the use of psychoactive substances or certain repetitive behaviours (gambling and gaming) which have addictive potential.
3. The ICD-11 diagnoses reflect and emphasise the public health approach to substance use and addictive behaviours in support of the World Health Organization's strategic approach to minimising harm from substance use.
4. This presentation will focus on the disorders and health risk conditions due to substance use.

The Spectrum of Substance Use and Disorder, and the Four Primary Substance Use Diagnoses



1. There is a spectrum of substance use and disorder in human society.
2. This ranges for a particular substance from zero and low risk use through hazardous (risky) use, use that has caused harm, to dependence on that substance.
3. This spectrum is illustrated in the “pyramid” depicted in the slide.
4. This informs the WHO public health approach.
5. The top four levels represent the primary substance use diagnoses, which are mutually exclusive to each other.

The Spectrum of Substance Use and Disorder in ICD-11 and comparison with DSM-IV and DSM-5



1. There is a conceptual difference between the ICD understanding of substance use disorders and that of the DSM system, especially DSM-5.
2. ICD-11 emphasises the spectrum or range in use and disorder, with Substance Dependence as a clinical syndrome and with sub-dependence diagnoses representing patterns of use over time leading to harm or conferring the risk of harm.

Introduction and Overarching Changes II

1. In ICD-11 for every patient who has a substance-related diagnosis there is a requirement to state which one of the four primary diagnoses applies.
2. The primary diagnosis also informs the clinician's and health system's response.
3. For those with hazardous or harmful use, secondary intervention approaches such as screening and brief intervention are appropriate to identify and engage, with the aim of reducing subsequent substance use to low-risk or zero levels.
4. For those with substance dependence, more severe harmful use, and other specific clinical syndromes, formal treatment is appropriate and this may combine psychological therapies, psychosocial support, self-help, and pharmacological treatments.
5. Harm reduction approaches may apply to all those who have hazardous, harmful or dependent substance use who chose not to modify their level, pattern or mode of substance use.

Introduction and Overarching Changes III

1. There is an expanded group of substances and substance groupings in ICD-11, numbering 14, compared with 9 in ICD-10.
2. In addition, there is provision for the diagnosis of disorders due to other specified psychoactive substances, and of disorders due to non-psychoactive substances.
3. For clinical and public health reasons clinicians are expected to identify the substance (or substance group) first and then the appropriate clinical syndrome(s).

Introduction and Overarching Changes IV

4. The substance groups in ICD-11 are:

<ul style="list-style-type: none">• Alcohol• Sedative hypnotics and anxiolytics• Opioids• Volatile inhalants	<ul style="list-style-type: none">• Nicotine• Cocaine• Stimulants including amphetamine and methamphetamine• Synthetic cathinones• Caffeine	<ul style="list-style-type: none">• Cannabis• Synthetic cannabinoids• MDMA and related drugs• Hallucinogens• Dissociative drugs including ketamine and phencyclidine
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Introduction and Overarching Changes V

1. The four primary diagnoses in ICD-11 are:
 - Substance Dependence
 - Harmful Pattern of Substance Use
 - Episode of Harmful Substance Use, and
 - Hazardous Substance Use
2. They are hierarchical and mutually exclusive and so only one can be diagnosed per substance group. However, different diagnoses may apply to different substances in the one patient.
3. These options contrast with ICD-10 when only Substance Dependence and Harmful Substance Use were available.

Introduction and Overarching Changes VI

4. Several additional diagnoses are available for particular clinical syndromes.
5. These include:
 - Substance Intoxication
 - Substance Withdrawal, and
 - various Substance-Induced Mental Disorders
6. These diagnoses may be made additionally to one of the primary diagnoses.

ICD-11 Substance Dependence I: Definition and Essential Features

1. Substance Dependence is defined in ICD-11 as a **disorder of regulation** of substance use arising from repeated or continuous use of that substance and consisting of a **strong internal drive** to use that substance.
2. The diagnosis requires a pattern of use that is manifested by two or more of the following essential features:
 - **impaired control** over substance use (e.g. onset, intensity, duration, termination, frequency, context);
 - **increasing priority** (precedence) given to substance use over other aspects of life including daily activities and responsibilities and maintenance of health, such that substance use continues or escalates despite the occurrence of harm or negative consequences;

ICD-11 Substance Dependence I: Definition and Essential Features.

- **physiological features** indicative of neuroadaptation to the substance including (i) tolerance, (ii) withdrawal symptoms, or (iii) repeated use of the substance to prevent or alleviate withdrawal.

Substance dependence is usually evident over a period of at least 12 months, but the diagnosis may be made if use is continuous (daily or almost daily) for at least three months.

ICD-11 Substance Dependence II: Comments and Concordance with ICD-10

1. ICD-11 Substance Dependence is a rationalisation and simplification of the corresponding ICD-10 diagnosis, with three essential features instead of six.
2. The coalescence into three essential features is supported by data analyses from the World Mental Health Survey showing very high concordance rates (κ coefficients averaging 0.95) of ICD-11 Substance Dependence with ICD-10 Substance Dependence (and also DSM IV Substance Dependence).

ICD-11 Substance Dependence II: Comments and Clinical Pointers

1. **Impaired control refers to the typical episode of substance use.** The clinician should seek to determine whether impaired control is experienced in any of the dimensions of use such as its onset, duration, intensity and termination. It may also be apparent from the context of use (e.g. an inappropriate setting) or by frequent episodes of impaired control.
2. “Craving” (a strong desire or urge to use the substance) often accompanies impaired control. It is not an essential feature in ICD-11, although it may be a focus for certain interventions. Craving is uncommon in certain forms of substance use (including some prescribed medications).
3. **Increasing priority is evident over time.** The clinician should take a longitudinal perspective and assess whether the use of the substance has taken increasing precedence (“centre stage”) over other aspects of life and role responsibilities, which become more peripheral.

ICD-11 Substance Dependence III: Other Comments

4. **Physiological features are not an obligatory requirement** for the diagnosis of Substance Dependence although they may be one of the two key features that make the diagnosis. This is because they appear not to occur for certain substances (e.g. hallucinogens).
5. Physiological features are insufficient in themselves for the diagnosis of Substance Dependence. Where increased tolerance and withdrawal phenomena may be expected (for example in prescription of opioids for cancer pain), the diagnosis of Substance Dependence cannot and should not be made unless one of the other key features, namely “impaired control” or “increasing priority” is present.
6. Physical and mental harm is very commonly seen in those who fulfil the diagnosis of Substance Dependence (>90% of cases in some studies), but the occurrence of harm is not an obligatory requirement for the diagnosis of Substance Dependence.

ICD-11 Harmful Pattern of Substance Use I

1. This is a sub-dependence diagnosis which is made on the basis of a repetitive pattern of substance use which has directly caused harm to the person or (through the person's behaviour) to someone else.
2. It is a modification of the ICD-10 diagnosis of Harmful Substance Use, the main difference being it includes behaviour by the diagnosed individual leading to harm affecting another person.
3. In ICD-11 it is defined as:
 - a pattern of continuous, recurrent or sporadic use of a psychoactive substance that has caused:
 - clinically significant damage to a person's physical ... or mental health ... or has resulted in behaviour leading to the harm of others.

ICD-11 Harmful Pattern of Substance Use II

4. The harm to the health of the individual occurs due to one of the following:
 - behaviour related to intoxication (e.g. aggressive behaviour, psychomotor impairment leading to injury);
 - direct or secondary toxic effects on body organs and systems (e.g. acute gastritis or exacerbation of pre-existing chronic health problems);
 - a harmful route of administration (e.g. injecting drug use).
5. Harm to health of others includes any form of physical harm (e.g. trauma from impaired driving) or a mental disorder (e.g. PTSD arising from an assault by the individual).
6. The pattern of use of the substance is evident over a period of at least 12 months (or at least one month if use is continuous).

Episode of Harmful Substance Use

1. This is a new diagnosis in ICD-11 and it has no exact counterpart in ICD-10.
2. It is defined as an **episode** of substance use that has caused harm to a person's physical or mental health or has resulted in behaviour leading to harm to others.
3. There is no known pattern of substance use.
4. Harm may occur from intoxication, toxic effects on body organs and systems, or from a harmful route of administration.
5. The diagnosis of Episode of Harmful Substance Use is particularly appropriate in health care settings where detailed information on the person's history of substance use may not be available (e.g. emergency departments) and/or when the patient is unable to give a detailed history and collateral information is unavailable.
6. As and when more information becomes available on the previous pattern of substance use, this diagnosis may be replaced by Harmful Pattern of Substance Use or Substance Dependence, as appropriate.

Hazardous Substance Use I

1. Hazardous Substance Use is defined in the ICD-11 as a health risk factor. As such it is classified in a separate chapter that covers factors influencing health status or contact with health services.
2. It is defined as a pattern of substance use that is sufficient in frequency or quantity to increase appreciably the risk of harmful physical or mental health consequences to the user or to others to an extent that warrants attention and advice from health professionals.
3. The increased risk may be from the frequency of substance use, from the amount used on a given occasion, or from risky behaviours associated with substance use or the context of use or from a combination of these.
4. The risk may be related to the short-term effects of the substance or to longer term cumulative effects on physical or mental health or functioning.

Hazardous Substance Use II

5. Hazardous Substance use has not yet reached the level of having caused harm to physical or mental health of the user or others around the user.
6. The pattern of substance use often persists in spite of awareness of increased risk of harm to the user or to others.
7. The diagnosis of Hazardous Substance Use should not be made where the requirements for the diagnosis of Substance Dependence are fulfilled or where harm has occurred for which the diagnoses of Harmful Pattern of Substance Use or Episode of Harmful Substance Use apply.

Additional diagnoses in ICD-11

1. In addition to the four primary diagnoses, ICD-11 provides additional diagnostic categories for specific clinical situations.
2. These include Substance Intoxication and Substance Withdrawal, which are directly related to substance use and are time-limited.
3. In addition, there is a range of Substance-Induced Mental Disorders, which focus on specific mental harms that have been induced by substance use.
4. There is a range of physical disorders including injuries which are related to substance use. In ICD-11 these are to be found in the chapters corresponding to the particular body organ or system.

Substance Intoxication I

1. Substance Intoxication reflects the time-limited effects of high doses of psychoactive substances and applies to all substance groups included in ICD-11. It has been renamed from Acute ... Intoxication in ICD-10.
2. These diagnoses typically refer to discreet episodes of substance use but with continued use the person may manifest intoxication for lengthy periods until that use ceases.
3. The essential features of Substance Intoxication are:
 - transient and clinically significant disturbances in consciousness, cognition, perception, affect, behaviour, or coordination that develop during or shortly after consumption of a substance

Substance Intoxication II

4. Specific features of intoxication are provided in ICD-11 for each class of substance.
5. Substance Intoxication is a clinical diagnosis. It may be supported by detection of a substance or metabolite in the body fluid, but the diagnosis should be based not merely on the presence or level of a substance.

Substance Withdrawal

1. Substance Withdrawal occurs in some persons with Substance Dependence (or with prolonged and/or high-level substance use) when they cease or reduce their level of use.
2. The specific features of Substance Withdrawal depend on the pharmacological properties of the specified substance and are consistent with those recognised as occurring upon cessation or reduction of the particular substance. The features vary in severity and duration.
3. Substance Withdrawal can occur when prescribed psychoactive medications (e.g. opioids, anxiolytics, stimulants) have been used in standard therapeutic doses.
4. It does not necessarily imply the person has Substance Dependence.

Substance-Induced Mental Disorders I

1. The ICD-11 provides for the diagnosis of various mental disorders which are considered to be induced by a psychoactive substance.
2. Substance-Induced Mental Disorders comprise the following:
 - Substance-Induced Delirium
 - Substance-Induced Psychotic Disorder
 - Substance-Induced Mood Disorder
 - Substance-Induced Anxiety Disorder
3. Two disorders apply only to psychostimulants:
 - Substance-Induced Obsessive-Compulsive Disorder
 - Substance-Induced Impulse Control Disorder

Substance-Induced Mental Disorders II

4. Substance-Induced Mental Disorders should be distinguished from the mental manifestations of Substance Intoxication and Substance Withdrawal, though they may follow on from these disorders.
5. Substance-Induced Mental Disorders typically last for several days, weeks or occasionally months, but there must be a temporal relationship with substance use at the onset.
6. They must be distinguished from the corresponding independent mental disorders or disorders of another aetiology. In these latter cases there is no clear relationship with the onset or termination of substance use.
7. Substance-Induced Mental Disorders exist in a time-frame between that of the short-term syndromes of Substance Intoxication and Substance Withdrawal and the typically longer time-frames of mental disorders that have no direct aetiological relationship to substance use.

Substance-Induced Delirium

1. Substance-Induced Delirium is defined in the ICD-11 as an acute state of disturbed attention and awareness with specific features of delirium during, or soon after withdrawal or intoxication from the substance.
2. Substance-Induced Delirium can be diagnosed in addition to Substance Intoxication and Substance Withdrawal.
3. The ICD-10 diagnosis of Substance Withdrawal State with Delirium is replaced by the ICD-11 diagnoses of Substance Withdrawal, specified with perceptual disturbances or an additional diagnosis of Substance-Induced Delirium where appropriate.
4. Specific features of delirium due to particular substances are described, for example, alcohol-induced delirium is characterised by impaired consciousness with disorientation, vivid hallucinations and delusions, insomnia, agitation, disturbances of attention...

Substance-Induced Psychotic Disorder

1. This is defined in the ICD-11 as a group of psychotic symptoms (e.g. delusions, hallucinations, disorganised thinking, grossly disorganised behaviour) that develop during or soon after intoxication with or withdrawal from the substance.
2. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition or behaviour that are characteristic of intoxication or withdrawal from the substance.
3. The amount and duration of substance use must be capable of producing psychotic symptoms.

Substance-Induced Neurocognitive Disorders

1. Substance-Induced Neurocognitive Disorders are primarily grouped in ICD-11 within the neurocognitive disorders but are cited in the section on Disorders due to Substance Use (with a cross reference). There are three:
2. Substance-Induced Amnesic Disorder describes memory impairment that is disproportionate to impairment in other cognitive domains and is characterised by deficits in learning new information and/or the ability to recall previously learnt information. Recent memory is typically more disturbed than remote memory.
3. Substance-Induced Dementia is defined as a global loss of cognitive function, with the development of persistent impairments (e.g. memory problems, language impairment, and an inability to perform complex motor tasks) that meet the definitional requirements of Dementia and are judged to be a direct consequence of substance use and persist beyond the usual duration of intoxication or withdrawal.
4. Substance-Induced Catatonia is a third, albeit less common, diagnosis.

Disorders due to Use of Other Substances

1. In ICD-11, the term “other specified psychoactive substances including medications” applies to psychoactive substances other than the 14 named substances/substance groups.
2. These substances include anabolic steroids, corticosteroids, anti-depressants, anticholinergic medications and antihistamines.
3. The diagnoses that apply to the named 14 substances/substance groups are applicable to these other psychoactive substances.
4. Diagnoses of disorders due to non-psychoactive substances are also available in the ICD-11. These include laxatives, growth hormone, erythropoietin, and some proprietary and over-the-counter medications and folk remedies.
5. For disorders in this second category, the diagnoses of Harmful Pattern of Use and Episode of Harmful Use of Non-Psychoactive Substances may be made as appropriate. However, Substance Dependence is not allowed as a diagnosis.

ICD-11 Substance Disorder Sub-Types and Qualifiers

1. For several diagnoses there are sub-types and qualifiers which offer a higher degree of precision in diagnosis according to the severity or course or other manifestations of the disorder.
2. Substance Intoxication may be specified as (i) mild, (ii) moderate, or (iii) severe.
3. Substance Withdrawal may be specified as (i) with perceptual disturbances, (ii) with seizures, or (iii) with perceptual disturbances and seizures.
4. For the diagnosis of Substance Dependence, the course qualifiers include (i) current use, (ii) early full remission: 1-12 months, (iii) sustained partial remission: reduction in substance use for more than 12 months, and (iv) sustained full remission: abstinence from the substance for 12 months +.

Establishing the Diagnosis of a Disorder due to Substance Use I

1. The ICD system recognises that there is variation in the presenting features of certain Disorders due to Substance Use, which may be biologically or culturally influenced, and it allows some flexibility in the detail of those features which lead the clinician to make the diagnosis; hence the term “diagnostic guidelines”.
2. The diagnosis of a Disorder due to Substance Use is typically made by the clinician comparing the information from the patient’s narrative history (aided by probes to enhance clarity) against the known features of the range of diagnoses that may apply, and through a matching process determining the diagnosis.
3. Additional information obtained over time may lead to revised or additional diagnoses, and this may include information from family members and other collateral sources.
4. This is complemented by the mental state examination (including cognitive evaluation).

Establishing the Diagnosis of a Disorder due to Substance Use II

1. In some health services, structured assessment schedules are utilised to enable the clinician to identify the various aspects of (i) intake, (ii) dependence, and (iii) harm.
2. Diagnostic interview schedules may be employed, in particular for research purposes and as a component of training in mental health and addictive disorders.
3. A brief questionnaire structured around (i) intake, (ii) dependence, and (iii) harm is the Alcohol Use Disorders Identification Test (AUDIT), which supplemented by confirmatory questions can facilitate diagnosis.
4. In many settings, physical examination can yield additional diagnostic information.

Establishing the Diagnosis of a Disorder due to Substance Use II

5. Further information may also be obtained through identification of a substance or metabolite in urine, saliva, breath, blood or another body fluid. This provides corroboration of recent substance use but does not directly lead to a diagnosis.
6. There is no specific exclusion for substance use. Or would it be stimulant-induced impulse control disorder? Physiological markers of the effects of alcohol, including harmful effects, are also available and these include gamma-glutamyltransferase (GGT), other liver function tests and carbohydrate deficient transferrin (CDT).
7. Imaging studies can point to disorder of various areas of the brain or other body organs.

Thank you!