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Highlights of ICD-11 Classification of Mental, Behavioral, and Neurodevelopmental Disorders

ABSTRACT

International classification of diseases (ICD)-11 is expected to be operative on the first day of January 2022. The key principle in this revision is simplification of the coding structure, electronic tooling, along with incorporation of advancements that occurred over past 30 years, since the publication of ICD-10. For a classification of mental disorders, development of the ICD-11 has been the most global, multilingual, multidisciplinary, and participative revision process by far. Adoption of a life-span approach, incorporation of a dimensional approach, provision of consistent and systematically characterized information as per recent evidence, and culture-related guidance along with effort for destigmatization are the salient features of this revision. In this review, we highlighted the process of developing the clinical description and diagnostic guidelines (CDDG), discussed the new disorders that were added with rationale, and last described the salient features of disorder grouping, pointing the key changes from ICD-10.

Keywords: Dimensional approaches, ICD-11 classification, International classification of diseases, Life-span approach.


INTRODUCTION

International classification of diseases is the foundation for the identification of health trends and statistics globally and the international standard for reporting diseases and health conditions. There had been a substantial advancement in medical science over the past 30 years since the endorsement of ICD-10 in May 1990 by the 43rd World Health Assembly—often found to be outdated both clinically and from a classification perspective. Minor updating of the ICD chapters probably would not be sufficient enough. Additionally, increasing need to operate in an electronic environment in this modern era also expedited the development of 11th version. On June 18, 2018, the World Health Organization (WHO) released a pre-final version of the 11th revision of ICD for mortality and morbidity statistics to its 194 member states, for review and preparation for implementation including translating ICD into their national languages. International classification of diseases-11 was subjected to be submitted to the 144th Executive Board Meeting on January 2019 and the 72nd World Health Assembly in May 2019; following endorsement, member states will start reporting using ICD-11 on January 1, 2022.

International classification of diseases defines the universe of diseases, disorders, injuries, and other health conditions in a comprehensive, hierarchical fashion that allows for secured storage, retrieval, and analysis of health information for evidence-based decision-making, sharing and comparing health information between hospitals, regions, settings, and countries. Contrary to the prevailing view that clinicians only use the classification to obtain diagnostic codes for administrative and billing purposes, a recent survey suggests that clinicians somewhat regularly use the CDDG and often review them systematically when making an initial diagnosis. Publication of the CDDG version of ICD-11 is expected following approval of the overall system by the World Health Assembly.

BEHIND THE LENS: MAKING OF ICD-11 CDDG

The WHO Department of Mental Health and Substance Abuse had been responsible for coordinating the development of major four

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ICD-11 and the DSM-5, although justified conceptual differences were permitted. The ICD-11 field study program used novel methodologies for studying the clinical utility of the draft diagnostic guidelines, including their consistency and accuracy of the application by clinicians. Most of the studies have been conducted in a time frame to allow their results to provide a basis for revision of the guidelines to address any observed weaknesses. 

The global participation has been ensured by establishing the global clinical practice network (GCPN) to allow directly mental health and primary care professionals from all over the world to participate through internet-based field studies. More than half of GCPN members are physicians, predominantly psychiatrists, and 30% are psychologists, and it has expanded to include nearly 15,000 clinicians from 155 countries with the gigantic proportions coming from Asia, Europe, and the Americas. The GCPN studies have been conducted in Japanese, Chinese, Russian, Spanish, and French, in addition to English, and have included an examination of results by language and region to identify potential difficulties in global or cultural applicability. Clinic-based studies have also been conducted through a network of international field study centers located in 14 countries across all WHO global regions conducted in the local language to evaluate the clinical utility and usability of the proposed ICD-11 diagnostic guidelines in natural conditions.

Major Innovations in the ICD-11 CDDG

The important innovation incorporated in ICD-11 is the “life-span approach,” i.e., disorders distributed to the groupings with which they share symptoms rather than onset according to the age, resulting in deletion of the group—disorders usually occurring in childhood and adolescence. For example, separation anxiety disorder was shifted to the anxiety and fear-related disorders grouping.

“Essential features” have been described in ICD-11 that represent the characteristics that a clinician could reasonably expect to find in all cases. Though the lists of essential features in the guidelines superficially resemble diagnostic criteria, arbitrary cutoffs and symptom counts and duration were generally avoided. Such approach ensured the flexible exercise of clinical judgment and increased clinical utility.

Culture-related information was systematically incorporated based on a literature review on cultural influences on psychopathology and its expression for diagnostic grouping as well as a detailed review of culture-related material in the ICD-10 CDDG and the DSM-5.

Another major innovation was incorporating dimensional approaches within an existing categorical system. Dimensional classification focuses on relevant aspects of the clinical presentation, which is more consistent with recovery-based psychiatric rehabilitation approaches. The dimensional potential is robustly realized in the classification of personality disorders.

Overview of Structure of the ICD-11

Chapter on Mental, Behavioral, and Neurodevelopmental Disorders

The flexible alphanumeric coding structure allowed for a much larger number of groupings than the decimal coding system in ICD-10, which allowed having a maximum of 10 major groupings of disorders. Diagnostic groupings in ICD-11 were created based more closely on scientific evidence and the needs of clinical practice (e.g., anxiety disorders were included as part of the heterogeneous group of neurotic, stress-related, and somatoform disorders). Two formative field studies were conducted to examine the conceptualizations held by mental health professionals around the world regarding the relationships among mental disorders. An effort was made to keep away the disparities between the organizational structures of DSM-5 and ICD-11.

The Kraepelinian organization of disorders followed in ICD-10 was shifted to a more scientific one. The organization principle followed a developmental perspective (neurodevelopmental disorders appear first and neurocognitive disorders last in the classification henceforth) and disorders were grouped together based on putative shared etiological and pathophysiological factors and shared phenomenology as well.

The impractical organic–nonorganic dichotomy for sleep- and sex-related disorders was discarded in ICD-11. While a separate chapter has been created for sleep–wake disorders that encompasses all relevant sleep-related diagnoses, another new integrated chapter for conditions related to sexual health has been added to house a unified classification of sexual dysfunctions and sexual pain disorders.

Transgender identity has been destigmatized by moving from the mental disorders chapter to the new sexual health chapter and was renamed as “gender incongruence” explicitly stating that gender variant behavior and preferences alone are not sufficient for making a diagnosis.

Novel Additions in ICD-11

Quite a few numbers of new disorders have been added to the ICD-11 chapter on mental, behavioral, and neurodevelopmental disorders.

Catatonia

The change in conceptualization of catatonia had been claimed from many years to give it an individual status, and this is for the first time catatonia was given the status of an independent syndrome. An entirely new diagnostic grouping for catatonia (at the same hierarchical level as anxiety and fear-related disorders, mood disorders, etc.) has been added in the ICD-11. Three out of twelve core features are needed for the diagnosis of this syndrome. Three conditions are included in the new diagnostic grouping: (a) catatonia associated with another mental disorder, (b) catatonia induced by psychoactive substances, including medications, and (c) secondary catatonia, i.e., caused by a medical condition along with the addition of “catatonia not otherwise specified (NOS)” group.

Bipolar Type II Disorder

DSM-IV has already introduced bipolar type II disorder, requiring an absence of manic episodes along with at least one hypomanic episode plus at least one major depressive episode to diagnose. ICD-11 also included this with the supporting evidence of differences in antidepressant monotherapy response, neuropsychological measures, genetic effects, and neuroimaging findings between bipolar I and II disorders.

Body Dysmorphic Disorder

Recognizing its distinctive symptomatology and similarities to obsessive-compulsive disorder, body dysmorphic disorder has been included in the obsessive-compulsive and related disorder (OCRD)
grouping in the ICD-11. Such inclusion excluded the confusing terms like hypochondriasis or dysmorphophobia and made it easy to differentiate from delusional disorders.

Olfactory Reference Disorder
In clinical settings, such conditions were not uncommon. This disorder is characterized by a persistent preoccupation of emitting a perceived foul or offensive body odor or breath that is either unnoticeable or only slightly noticeable to others. This is accompanied by repeated checking or reassurance-seeking behavior and marked avoidance of social situations.  

Avoidant/restrictive Food Intake Disorder
Avoidant/restrictive food intake disorder (ARFID) is characterized by intake of an inadequate quantity or variety of food to meet adequate energy or nutritional requirements in the absence of concerns about body weight or shape (difference from anorexia nervosa), resulting in weight loss or failure to gain in childhood or pregnancy. Its inclusion can be considered to be an expansion of the ICD-10 category “feeding disorder of infancy and childhood” and is likely to improve clinical utility across the life span (i.e., ARFID applies to children, adolescents, and adults) as well as maintaining consistency with DSM-5.

Body Integrity Dysphoria
A rare disorder characterized by the persistent desire to have a specific physical disability (e.g., blindness, amputation, paraplegia, deafness) beginning in childhood or early adolescence. Often manifested in fantasizing about having the desired physical disability or engaging in “pretending” behavior. For a few individuals, this desire or preoccupation goes far beyond fantasy, and they pursue actualization of the desire through surgery (i.e., by procuring an elective amputation) or by self-damaging a limb to a degree where amputation remains the only therapeutic option (e.g., freezing a limb in dry ice).

Intermittent Explosive Disorder
Although intermittent explosive disorder was introduced in the DSM-III-R, ICD-10 kept it only as an inclusion term under “other habit and impulse disorders.” It is reincluded in the ICD-11 impulse control disorders section in recognition of the substantial evidence of its validity and utility in clinical settings. This disorder is characterized by repeated brief episodes of verbal or physical aggression or destruction that represent a failure to control aggressive impulses, out of proportion to the provocation or precipitating psychosocial stressors, diagnosed only if not better explained by another disorders like oppositional defiant disorder, conduct disorder, and bipolar disorder.

Premenstrual Dysphoric Disorder
In the ICD-11, premenstrual dysphoric disorder (PMDD) is differentiated from a more commonly occurring entity, premenstrual tension syndrome, by the severity. The inclusion of PMDD in the research appendices of the DSM-III-R and DSM-IV stimulated a great deal of research that established its validity and reliability. Premenstrual dysphoric disorder is cross-listed in the subgrouping of depressive disorders due to the prominence of affective symptoms, although its primary location is in the ICD-11 chapter on diseases of the genitourinary system.35

**Summary of ICD-11 Disorder Grouping and Modifications**
The addition of new disorders has been elaborated. Here is the summary of changes in the main disorder groupings of the ICD-11 chapter on mental, behavioral, and neurodevelopmental disorders. ICD-11 working groups reviewed the shreds of evidence to achieve clinical utility and global applicability. Field trials were carried out accordingly.

Neurodevelopmental Disorders
Neurodevelopmental disorders come first in ICD-11 according to the life-span approach followed in entirety. Disorders of acquisition and execution of specific intellectual, language, motor, and social functions have been included here. The notable changes are renaming of mental retardation and disorders of psychological development of ICD-10 to disorders of intellectual development, an applauding effort to decrease the stigma associated. This provides a comprehensive set of behavioral indicators,36 tables for intellectual and adaptive functioning domains (conceptual, social, practical), organized according to age groups (early childhood, childhood/adolescence, and adulthood) and four levels of severity (mild, moderate, severe, profound).

In autism spectrum disorder (ASD), both childhood autism and Asperger’s syndrome were incorporated. Qualifiers to embrace the extent of impairment were added.

Attention deficit hyperactivity disorder (ADHD) has been added in this group and replaced the term “hyperkinetic disorder.” This was an effort to indicate the common co-occurrence of other neurodevelopmental disorders, developmental onset, as well as to lessen the stigma by differentiating it from dissocial or disruptive disorders. Qualifiers like inattentive and hyperactive-impulsive were retained as ICD-10.

Chronic tic disorders (Tourette syndrome) were actually classified in the chapter on diseases of the nervous system but are cross-listed here in this group.

Schizophrenia and Other Primary Psychotic Disorders
The term “primary” has been incorporated here to exclude the cases of affective or induced psychosis,37 pointing that psychosis being the core feature. Other changes were in accordance with the DSM-5, like deemphasization of Schneiderian first-rank symptoms and elimination of subtypes of schizophrenia due to their lack of predictive validity or utility in treatment selection. Dimensions have been described, including detailed description (positive symptoms/negative symptoms/depressive mood symptoms, manic mood symptoms, psychomotor symptoms/cognitive symptoms). The “polymorphic” picture of the acute and transient psychotic disorder has been particularly emphasized for the diagnosis. Otherwise, no major conceptualization changes were done in schizo-affective disorder or schizotypal disorder.

Mood Disorders
While diagnosing a mood episode, a longitudinal pattern was given importance in ICD-11. Though symptom count was deemphasized, depressive disorder is one of the few places where it was used. Depressive symptoms are organized into three clusters—affective, cognitive, and neurovegetative. Hopelessness has been given special significance among cognitive symptoms in view of strong evidence of its predictive value.38 Persistent mood disorders in ICD-10, consisting of dysthymia and cyclothymia, has been eliminated39 and included in depressive disorders and bipolar disorders accordingly. Presence of typical contrapolar mixed symptoms confirms the bipolar type I diagnosis. Several qualifiers were added like mood episodes in partial or in full remission; severity of an episode (mild, moderate, or severe); and qualifiers for melancholic features, prominent anxiety symptoms, presence of panic attacks, seasonal pattern, and rapid cycling. Mixed depressive and anxiety disorder was shifted to depressive disorders in the ICD-11 due to prominence of mood symptoms.

Anxiety and Fear-related Disorders
Disorders primarily presenting with anxiety or fear were regrouped here.40 Separation anxiety disorder and selective mutism were shifted here according to the life-span approach. The ICD-10 hierarchical exclusion rules have been eliminated, as this interfere with specific clinical attention. So generalized anxiety disorder (GAD) can co-occur with depressive disorders as long as symptoms are present independent of mood episodes. In agoraphobia, conceptual broadening is done to discard the narrower concept of fear of open spaces and related situations, such as crowds; rather, ICD-11 gives more stress on specific negative outcomes that would be incapacitating or embarrassing in the situations. Concept of panic disorder is kept same as ICD-10, while a “with panic attacks” qualifier can be applied to the other anxiety disorder diagnosis. And above all, separation anxiety disorder can be diagnosed in adults, where it is most commonly focused on a romantic partner or a child.40

OCRDs
Despite the phenomenological overlap, the OCRD group was introduced for differentiating from other anxiety disorders on the basis of presence of core feature of unwanted thoughts and related repetitive behaviors along with evidence of the shared validators among included disorders from imaging, genetic, and neurochemical studies.40 The group includes body dysmorphic disorder, olfactory reference disorder, hypochondriasis (illness anxiety disorder), and hoarding disorder. The subgroup of body-focused repetitive behavior disorders, including trichotillomania (hair-pulling disorder) and excoriation (skin-picking) disorder, was introduced as both share the core feature of repetitive behavior without the cognitive aspect of other OCRDs. Tourette syndrome is cross-listed in this group because of its frequent co-occurrence with obsessive compulsive disorder (OCD). International classification of diseases-10 subtypes of OCD are eliminated because of the frequent presence of covert compulsions along with the addition of the qualifier “with poor to absent insight.” Depressive disorders are not prohibited anymore to be diagnosed with OCD in view of high co-occurrence.
Disorders Specifically Associated with Stress
Reactions to severe stress and adjustment disorders in ICD-10 have been replaced by “disorders specifically associated with stress” in ICD-11. Reactive and disinhibited attachment disorders of childhood are reclassified to this group owing to the life-span approach. Addition and concepts of complex PTSD and prolonged grief disorder were explained earlier in this paper. Adjustment disorder is defined on the basis of the core feature of preoccupation (rather than only response) with a life stressor or its consequences, which indicates a conceptual change in ICD-11 and classified in “factors influencing health status or contact with health services.”

Dissociative Disorders
The term “conversion” in ICD-10 is eliminated from the group title 68. International classification of diseases-11 dissociative neurological symptom disorder is presented as a single disorder with 12 subtypes, which is conceptually consistent with ICD-10 dissociative disorders of movement and sensation. Dissociative fugue is not counted as a separate disorder but kept as a qualifier for dissociative amnesia. The ICD-10 possession trance disorder is separated into trance disorder (typically involves the repetition of a small repertoire of simpler behaviors) and possession trance disorder (a greater range of more complex behaviors exhibited). Dissociative identity disorder in ICD-11 corresponds to the concept of ICD-10 multiple personality disorder. Introduction of partial dissociative identity disorder covers several cases classified as unspecified in ICD-10. Depersonalization and derealization disorder is moved to the dissociative disorders group in the ICD-11 from other neurotic disorders group in the ICD-10.

Feeding and Eating Disorders
Due to life-span approach, feeding and eating disorders of childhood have been included as these are interconnected and could appear in individuals across a broader range of ages. Other than the addition of ARFID and binge eating disorder, conceptual upgradation is there in eating disorders according to recent researches. In the diagnosis anorexia nervosa, requirement for the presence of a widespread endocrine disorder has been eliminated; the threshold for low body weight in ICD-11 is raised from 17.5 kg/m² to 18 kg/m². Bulimia nervosa can be diagnosed regardless of the current weight until the body mass index is not very low and even if there is only “subjective” binges in the absence of “objective” binges.

Elimination Disorders
The term “non-organic” is removed from the ICD-11.

Disorders of Bodily Distress and Bodily Experience
The group includes two disorders: bodily distress disorder (represents ICD-10 concepts of somatoform disorders and neurasthenia) and body integrity dysphoria (mentioned earlier). While describing bodily distress disorder, more importance is given on excessive attention and preoccupation given on somatic complaints rather than the mere absence of medical explanations for bothersome symptoms. Qualifiers are (mild, moderate, or severe) in concordance with dysfunctioning.

Disorders Due to Substance Use and Addictive Behaviors
The major conceptual change entertained in substance use disorders is the addition of “single episode of harmful substance use,” which provides an opportunity for early intervention and prevention of escalation of use or harm, whereas the diagnoses of “harmful pattern” of substance use and substance dependence suggest the need for intensive interventions. Importantly, the so-called behavioral addictions naming gambling disorder (pathological gambling in ICD-10) and gaming disorder were introduced in this grouping. Recent evidence points toward similar neurobiology, especially activation and neuro-adaptation within the reward and motivation circuits, and important phenomenological similarities like a change from “impulsive to compulsive” use.

Impulse Control Disorders
The group includes kleptomania and pyromania. Significant changes are the introduction of intermittent explosive disorder and compulsive sexual behavior disorder, which reclassifies ICD-10 excessive sexual drive.

Disruptive Behavior and Dissocial Disorders
The group includes oppositional defiant disorder and conduct-dissocial disorder. The new term was put for better reflecting the full range of severity of behaviors. Such disorders can be diagnosed across the life span; however, a qualifier has been added based on prognosis (earlier onset indicates more severe pathology and a more miserable course). The new addition of disruptive mood dysregulation disorder in DSM-5 invited much criticism and ICD-11 tactfully avoids that by adding of another qualifier “with chronic irritability and anger,” which is based on the evidence that its presence significantly increases the risk for subsequent depression and anxiety.

International classification of diseases-11 conduct disorder consolidates the three separate conduct disorder diagnoses (i.e., confined to the family context, unsocialized, socialized) classified in ICD-10, as psychosocial risk factors act simultaneously rather than separately.

Personality Disorders
The crucial change entertained in ICD-11 was the addendum of qualifiers—mild, moderate, or severe—based on the pervasiveness of disturbances in the functioning of self, interpersonal dysfunction; severity and chronicity of emotional, cognitive, and behavioral manifestations; and the extent of psychosocial impairment. Practically as per ICD-10 classification, it had been noted that emotionally unstable personality disorder, borderline type, and dissociative personality disorder had been most frequently diagnosed condition in publicly available databases. Five trait domains were included: negative affectivity, detachment, dissociality, disinhibition, and anankastia. A new category naming “personality difficulty” actually refers to those individuals where deviant traits are present not up to the severity amounting to be labeled as a disorder.

Paraphilic Disorders
Paraphilic disorder is the contemporary terminology more frequently used in research and clinical contexts and so is assigned to the group name than ICD-10 grouping of disorders of sexual preference. More focus was put on the fact that behaviors were acted on non-consenting others; resultantly, private behaviors, such as sadomasochism, fetishism, and fetidistic transvestism, have been eliminated as those found to be not relevant to public health. However, disorders like asphyxophilia, although being a solitary...
private behavior, is kept in this group for an obvious reason under “other paraphilic disorder.”

**Factitious Disorders**
The new grouping of factitious disorders includes factitious disorder imposed on the self and factitious disorder imposed on another. Malingering is not classified as a mental, behavioral, or neurodevelopmental disorder but appears in the chapter on “factors influencing health status or contact with health services.”

**Neurocognitive Disorders**
The group includes delirium, mild neurocognitive disorder (called mild cognitive disorder in ICD-10), amnestic disorder, and dementia. The syndromal characteristics of dementia are classified in the chapter on mental, behavioral, and neurodevelopmental disorders, whereas the underlying etiologies are classified in the chapter on diseases of the nervous system or other sections as appropriate. Dementia may be classified as mild, moderate, or severe.

**Conclusion**
For a classification of mental disorders, development of the ICD-11 has been the most global, multilingual, multidisciplinary, and participative revision process by far. The ICD-11 mortality and morbidity statistics would be used by all member states for health statistics, as well as CDDG would be used in clinical settings, subjected to be modified according to individual country’s laws, policies, and health structures. The major innovations like the incorporation of the life-span approach, integration of the dimensional approach, the inclusion of culture-related information, inclination toward the biological approach, along with effort for destigmatization obviously strengthen its structure. Being the successor of DSM-5 in a time line, it probably could avoid few loopholes and criticisms arose for DSM-5; however, in most instances, these two classificatory systems have been tuned in the same frequency. So if a unified classification system is sought to be used worldwide, they probably would not be irrelevant.

**References**