Review Article

Substance Use Disorder in People with Intellectual Disabilities: Current Challenges in Low- and Middle-Income Countries

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Abstract

Use of illegal and prescription drugs has significantly increased in recent years all over the world in most populations. Greater worldwide awareness in this regard has substantially improved the epidemiological understanding of substance use, its risk factors, and impact on life. People with intellectual disabilities constitute 0.5%–1.5% of the world's population. It can be conjectured that they might be experiencing similar or even a greater burden of substance use in their lives. This article highlights some important aspects of substance use among this population in low- and middle-income countries that need urgent attention.

Keywords: *Intellectual disability, low-and middle-income countries, substance use disorder*

Introduction

The prevalence of intellectual disability (ID) or mental retardation in the general population ranges about 0.5%–2.3% across countries, with peak in rates observed in adolescence (15–20 years) which constitutes the developmental period.[1,2] Prevalence estimates vary according to the income group of the country, with highest rates being reported in low- and middle-income countries, almost twice as compared to high-income countries.[3] Substance-related and addictive disorders or substance use disorder (SUD) is a significant concern for individuals with ID, and is associated with high rates of psychiatric and other comorbidities in this population.[4,5] Recent studies among individuals with ID in Canada and Belgium reported a significantly higher prevalence of SUD compared to the general population.[6,7] This may be due to a relatively high risk of abuse, dependency,[8] and severe adverse consequences[9] even after initial use among these individuals. Moreover, substance use in individuals with ID is known to be a known risk factor for anxiety/depression, intrusive thoughts, and aggressive and antisocial behavior.[10]

SUD has been observed at higher rates among people with mild and moderate IDs. Among all substances, alcohol, tobacco, and cannabis were found to be the most used substances in the higher functioning ID population.[11] The rate of SUD in the ID population is relatively better known in European countries from reports of several studies among populations of Greece, Spain, the United Kingdom, the Netherlands, and Ireland.[11-15] Few estimation studies on the rate of SUD were also conducted in Canada, the United States, and Australia.[6,16,17] Studies conducted in the United Kingdom, the Netherlands, and Australia estimated SUD as high as 15%–30% among the ID population.[12,13,15,17] Two nations with the biggest population in the world, India (17.9%) and China (18.5%), together constituting 36.4% of the world's total population do not have any reports on the estimation of SUD in people with ID. Even estimates of SUD among the general population are unavailable for low- and middle-income countries, thus limiting knowledge on the type of substances (such as use of

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prescription psychotropic drugs which are highly abused by individuals with ID) abused among those with ID in these countries.[18,19]

Research suggests that diagnostic methods, screening tools, and substance abuse treatment programs that are available for use among individuals without ID are not systematically evaluated for use among those with ID. Having a diagnosis of ID is often a contraindication for therapy in regular addiction treatment facilities. Hence, these diagnostic and treatment modalities may not be valid for use in this specific population. Research also shows that individuals with ID and SUD tend to be younger and more likely to live in the poorest neighborhoods compared with those with ID but no SUD and those with SUD but no ID.[6] Hence, the treatment programs may not be equally effective among all the ID populations across various geographical regions. These observations suggest a need for the development of valid and effective diagnostic, surveillance, and therapeutic substance abuse programs that target these individuals with ID, particularly among those living in the low- and middle-income countries. This article highlights some important aspects of substance use in this population which need urgent attention.

Defining Substance Use Disorder among Those with Intellectual Disability: Overlap of Symptom Characteristics That Define Substance Use Disorder and Intellectual Disability

A proper well-articulated definition is needed to explain and understand a disorder. Table 1 shows the overlap of symptoms that define SUD and the commonly observed behavioral characteristics among people with ID. Substance use has been labeled with multiple terminologies such as "tolerance," "dependence," "addiction," "overdosing," "abuse," and "substance abuse problem."[20] Recently, the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has suggested a new name – substance use disorder (SUD). SUD is diagnosed on the basis of four criteria, namely impaired control; social impairment; risky use; and pharmacological indicators of cognitive, psychological, and physiological factors [Table 1]. Depending on the severity, SUD can be classified into mild, moderate, and severe categories. It is considered mild SUD if 2–3 symptoms are met, moderate SUD with 4–5 symptoms, and severe SUD with the presence of 6 and more symptoms.[21] Until now, this definition of SUD by the DSM-5 is found to be the most comprehensive in research and clinical settings for addressing the issue of SUD. Worldwide, many instruments have been developed and standardized for various substances as well as for specific substance for different age groups and populations.

The older definition of ID (previously known as "mental retardation") refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period.[22] The latest definition provided by the DSM-5 defines ID as having (1) deficit in intellectual functioning (reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and experiential learning); (2) impairment in adaptive functioning (communication, social skills, personal independence in home and community, and school and work functioning); and (3) occurrence in developmental period,[23] and this definition makes clear that people with ID interact with the society differently than people without ID. Two diagnostic criteria of impaired control and social impairment of SUD are often found naturally in people with ID. How impaired control and social impairment due to SUD in people with ID can be measured if this population already has deficits in those domains? Can the given definition appropriately reflect SUD in people with ID?

Classification of Mental Health Disorders in Intellectual Disability: Diagnostic Tools Used (International Classification of Diseases vs. Diagnostic and Statistical Manual of Mental Disorders)

Although the International Classification of Diseases, Tenth revision (ICD-10) Diagnostic Criteria for Research is extremely helpful in psychiatric research and practice, this classificatory system, and the criteria within several of the mental health disorders, is difficult to apply for those with ID.[24] The ICD-10 groups all kinds of substance use under mental and behavioral disorders and classifies them as the behaviors that are consequent to the use of these substances. Specific codes are assigned to the specific mental and behavioral conditions aroused from the use of the substance (e.g. mental and behavioral disorder due to use of alcohol, opioids, cannabis, and sedative hypnotics). The ICD-10 criteria are widely used in low- and middle-income nations. Certain behavioral issues in people with ID may exhibit symptoms similar to SUD that are explained in the ICD-10 classification. Therefore, it is important that the diagnostic classification for this population should also take into consideration the diagnosis of ID while determining the diagnostic codes for SUD and propose a separate diagnostic code category for SUD among people with ID.

Table 1: Fifth Edition of Diagnostic and Statistical Manual of Mental Disorders' substance use disorder symptoms for diagnosis

Impaired control	Social impairment	Risky use	Pharmacological indicators (tolerance and withdrawal)
SUD symptoms: Cognitive, behavioral, and physiological			
Diagnosis: 2–3 symptoms – mild SUD; 4–5 symptoms – moderate SUD; and 6 and more – severe SUD			
Unable to stop or reduce dose even with a persistent desire Spend a lot of time in finding substance, using and recovering from its effects Most of the daily activities revolve around the substance Experience craving for substance	Failure to fulfill major roles Recurrent social or interpersonal problems due to effects of the substance Withdrawal from family activities and hobbies	Recurrent substance use even in physically hazardous situations Continue to use despite having a persistent or recurrent physical and psychological problem	Increased tolerance to achieve desired effect Experience withdrawal effect
Commonly observed characteristics of people with intellectual disabilities			
Often have behavioral issues which they are unable to control Exhibit poor sense of time especially when tries to get something that pleases them	Depending on the degree of disabilities, some of them do not possess skills to fulfil major roles People with borderline and mild intellectual disabilities experience social and interpersonal problems	Especially many people with moderate IDs do not understand the harms of certain behavior such as substance use and overeating. Many behaviors even with negative consequences continue in people with IDs	The frequency and intensity of a behavior increases in people with IDs with much higher rate than a non-ID person

SUD: Substance use disorder, ID: Intellectual disability

DSM-5, with its emphasis on adaptive functioning, is a more realistic approach to the diagnosis of ID and may be a better tool for classification of SUD among ID. Recently, Hoffann *et al*. in 2015 analyzed the discrepancies between ICD-10 and DSM-5 diagnostic approaches and concluded that, although the two approaches demonstrated a high level of concordance in patients with no or severe alcohol use disorder, there was more discrepancy between the two diagnostic approaches for more mild and moderate cases.[25] No research has been reported targeting cross-system comparison (i.e., ICD vs. DSM) in low- or middle-income countries and evaluating the diagnostic criteria for SUD. However, use of DSM can be challenging in these countries given that the ICD is widely available with substantial discounts to low-income countries and freely on the Internet. In addition, the lack of comparative consistency between the two major diagnostic systems may be limiting the usefulness of the two combined. This lack of unified approach may in turn be impeding the process of developing a globally useful surveillance system that brings the profile of this condition and its populations into sharper detail to guide policy, systems, environments, and behaviors.

Furthermore, use of psychometric assessments or scales in low- to middle-income countries to identify people with ID has been shown to report higher prevalence estimates of ID compared to those estimated using the ICD or DSM diagnostic criteria.[3] Thus, improved techniques of case identification and use of standardized instruments and validated approaches for the diagnosis of SUD among those with ID are required for appropriately estimating the burden of SUD among ID in these low- to middle-income countries, which can be challenging.

People with ID suffer from a higher rate of psychiatric comorbidities.[26] Several studies have found the rate of psychiatric disorders ranging between 30% and 50% in people with ID.[27-29] Co-occurrence of psychiatric disorders with SUD is common.[30,31] Based on the rate of psychiatric disorders in people with ID, there might be a preexisting mental and behavioral disorder in the person who further develops a substance-related disorder. It can be difficult for professionals to differentiate two separate disorders and do a differential diagnosis in people with ID, especially when a psychiatric disorder is preexisting or developed due to a substance use.

Challenges to Substance Use Disorder Care among People with Intellectual Disability in Low- to Middle-Income Countries

In the last two decades, rehabilitation of people with ID in the community has been highly advocated and practiced even in low- and middle-income countries.[32]

Majority of high-income countries have systems in place that can monitor people with ID in their respective settings including schools, places of employment, rehabilitation centers, nursing homes, and even in the assisted and independent living facilities.[33] In low- and middle-income countries, many people with higher functioning or milder form of IDs are found well integrated in rural settings.[2,34] However, even though they have IDs, they are not identified as people with ID. In this situation, they have much easier access to substances, putting them at higher risk for SUD. A larger population of people with severe ID suffer from some form of psychiatric comorbidity for which they are prescribed psychotropic drugs. Many care takers/parents continue with the same medicine without consulting with the prescribers, which further increases the risk of SUD development in persons with ID.

Many challenges are being faced in low- and middle-income countries for addressing SUD among the ID population. Some of the important challenges that need to be met are to have an estimation of SUD in each category of ID, types of substance used with each category of ID, how substances are accessed by people with ID in different settings, whether any substance used by them plays a protective role, estimation of SUD of psychotropic drugs, and development of reliable and standardized screening tools. Further, more trained people are needed who can understand the complexity of SUD in the ID population, and a tailored public health intervention plan is needed to address this situation in the community. And more importantly, a serious attention is needed to address SUD in ID population, particularly among the low- and middle-income countries.[16]

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