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Problem of substance abuse among adolescents with disability: A systematic review

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Abstract

Unhealthy behaviours such as smoking, drinking, and illicit drug use often begin during adolescence; they are closely related to increased morbidity and mortality and represent major public health challenges. Unemployment, poor health, accidents, suicide, mental illness, and decreased life expectancy all have drug misuse as a major common contributing factor. Substance abuse has a major impact on individuals, families, and communities. Patients with disabilities often use prescription medications to battle painful conditions, many of which have high potential for addiction. The presented review was developed in response to the publication of several studies addressing problems of substance abuse among the disabled adolescents. Online database search was performed in Pubmed, Cinhal, Medline and relevant studies were included with no language restriction. Following on from this, databases were accessed to enable a more in depth search of the literature using key words and Boolean operators to generate articles relevant to the topic. These articles were filtered using an inclusion /exclusion criteria in order to refine the results to a manageable level or eight articles. These eight articles were analyzed and the results reported that prevalence rates of SU(D) among individuals with MBID range from almost non-existent to highly prevalent. Within MBID populations, it appears that because of a lack of systematic screening and assessment of SU(D), SU is often overlooked and remains undetected. SUD prevention should start at a young age for children with MBID and all treatment interventions should be tailored to the needs of those with MBID.

Keywords: Intellectual disability (learning disability, developmental disability, mental retardation, mental deficiency, intellectual developmental disorder) low IQ, borderline IQ, and SUD (addiction, tobacco/alcohol/drug/SU, tobacco/alcohol/drug/SUD, tobacco/alcohol/drug/substance disorder, tobacco/alcohol/drug/substance-related disorder)

Introduction

Alcohol use is common and is the substance most often used by adolescents. Heavy alcohol use is also common, and nearly 90% of all alcohol consumed by adolescents occurs during a binge. A binge is defined as a pattern of alcohol consumption that raises the blood alcohol level to 80 milligrams per deciliter (17.37 millimoles per litre). The number of drinks that constitute a binge depends on age and sex and can be as few as 3 drinks within 2 hours for younger adolescent girls. However, because adolescents often drink alcohol directly from the bottle or pour their own drinks, a drink for them may be larger than a "standard" drink for adults. Binges put adolescents at risk of accidents, injuries, unprotected or unwanted sexual activity, and other unfortunate situations. For these reasons, adolescents should be discouraged from drinking (Levy, 2020) ^[10].

Unhealthy behaviours such as smoking, drinking, and illicit drug use often begin during adolescence; they are closely related to increased morbidity and mortality and represent major public health challenges. Unemployment, poor health, accidents, suicide, mental illness, and decreased life expectancy all have drug misuse as a major common contributing factor. Substance abuse has a major impact on individuals, families, and communities as its effects are cumulative, contributing to costly social, physical, and mental health problems (Sussman, Skara and Ames, 2008) ^[16]. Several factors can enhance the risk for initiating or continuing substance abuse including socioeconomic status, quality of parenting, peer group influence, and biological/inherent predisposition toward drug addiction. This culminates in a cycle where these individuals cease to perform as effective members of society and instead are consumed by their addictions (Kulig, 2005) ^[9].

Disabilities and addiction can tragically be a common pair. People with disabilities are substantially more likely to suffer from substance use disorders (SUDs) than the general population, and they are also less likely to receive treatment or them.

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The inverse can also be true. People with an addiction are also more likely to become disabled, either through accidental injury or through long-term side effects of substance abuse. People with physical disabilities experience SUDs at 2 to 4 times the rate of the general population (Le Fauve, 2010) ^[3]. A disability and lack of support can easily discourage someone's happiness and sense of purpose in life, creating depressing states.

Justification

Substance abuse can be found among all groups of people. When it comes to physically disabled individuals, there may be special circumstances around their abuse of a drug related to their disability, especially if chronic pain is involved. These circumstances require special consideration from anyone looking to treat one of these individuals for a substance use disorder (Sunrise House treatment centre, 2020) ^[15].

The risk of developing SUD after initial SU varies across persons. Indeed, a great deal of research has been directed at identifying risk factors associated with developing SUD. This research suggests that SUD is a multifaceted problem that can best be explained by a complex interplay between biological (e.g., genetics, physiological effects of substances), psychological (e.g., personality traits, comorbid psychiatric disorders), and social factors (e.g., socioeconomic status, peer pressure, SU by important others). All factors – biological, psychological, and social – interact with each other and can increase or decrease the risk for developing SUD in a given individual. Despite the complexity of this area, identifying common risk factors associated with the development and maintenance of SUD is essential to the improvement of prevention, early detection, and treatment (Carroll Chapman and Wu, 2012) ^[1]. In addition, knowledge about SUD risk factors can also be used to direct scientific and clinical attention to high-risk groups that may need a specific or more intensified approach (Glazier and Kling, 2013) ^[4].

Patients with disabilities often use prescription medications to battle painful conditions, many of which have high potential for addiction. Prescribed opioids in particular are effective Painkillers, yet are highly addictive and can easily be abused. People with disabilities are more likely to abuse Opioids but less likely to receive treatment. Opioids are so highly addictive that even individuals that closely follow short-term prescriptions can quickly get hooked, a risk that only goes up the longer the prescription (Le Fauve, 2010) ^[3]. It can be difficult to determine rates of substance abuse since the population of physically disabled persons is so much smaller than the general population. Also, these individuals are prescribed medications that are often used at a much higher rate due to pain, mobility issues, and mental health issues. When you need these medications to function, and when your functioning looks different than that of the able-bodied majority, it can be hard to determine where the line between simple use and abuse is located.

Aim

This review aims to critically analyse the current evidence contributing to problems and prevalence of substance abuse among disabled adolescents.

Objectives

1. To critically analyse current literature on problems and

prevalence of substance abuse among disabled adolescents

2. To draw conclusions from the findings of the eligible studies to enable a review study

Research Question

The research question of this study is what are the various problems and treatments of substance abuse among disabled adolescents

Methodology

Data gathering is a vital element of systematic reviews since it lays the groundwork for the conclusions made. This entails ensuring sure data is dependable, accurate, complete, and readily accessible. Once the review questions have been set, modifications to the protocol should be allowed only if alternative ways of defining the populations, interventions, outcomes or study designs become apparent. Multiple resources (both computerized and printed) were searched without language restrictions. Furthermore, various internet engines were searched for web pages that might provide references. The study selection criteria flowed directly from the review questions and be specified *a priori*. Reasons for inclusion and exclusion were recorded. Selected studies were subjected to a more refined quality assessment by use of general critical appraisal guides. These detailed quality assessments were used for exploring heterogeneity and informing decisions regarding suitability of meta-analysis

A comprehensive technique was developed for this assessment in order to determine the appropriate sample group (see table below). The criteria for evaluating the literature were developed with PEO in mind. This demonstrated that the study question had been addressed and that publications with an adequate design had been chosen, as advised by (Duke University)

A clinical question needs to be directly relevant to the patient or problem at hand and phrased in such a way as to facilitate the search for an answer. PEO makes this process easier. It is a mnemonic for the important parts of a well-built clinical question. It also helps formulate the search strategy by identifying the key concepts that need to be in the article that can answer the question

Criteria for PEO

Participants	Adolescents and adults above 18 years of age with any kind of disability
Exposure	Substance abuse
Outcome	Prevalence of Substance abuse

Data Collection Strategies

Three databases were chosen and utilised throughout the data collection method for this investigation. PubMed, CINAHL, and also the Cochrane library were consulted. To avoid oversaturation of the data, keywords were searched and Logical operators were used inside the search. (Pati & Lorusso, 2018) demonstrate that depending on how a search is conducted, purposeful or accidental bias may be evident. As a result, it is vital to prove that a thorough, extensive, and broad search was conducted.

Keywords used as per MeSH: Intellectual disability (learning disability, developmental disability, mental retardation, mental deficiency, intellectual developmental

disorder) low IQ, borderline IQ, and SUD (addiction, tobacco/alcohol/drug/SU, tobacco/alcohol/drug/SUD, tobacco/alcohol/drug/substance disorder, tobacco/alcohol/drug/substance-related disorder

Inclusion/exclusion criteria.

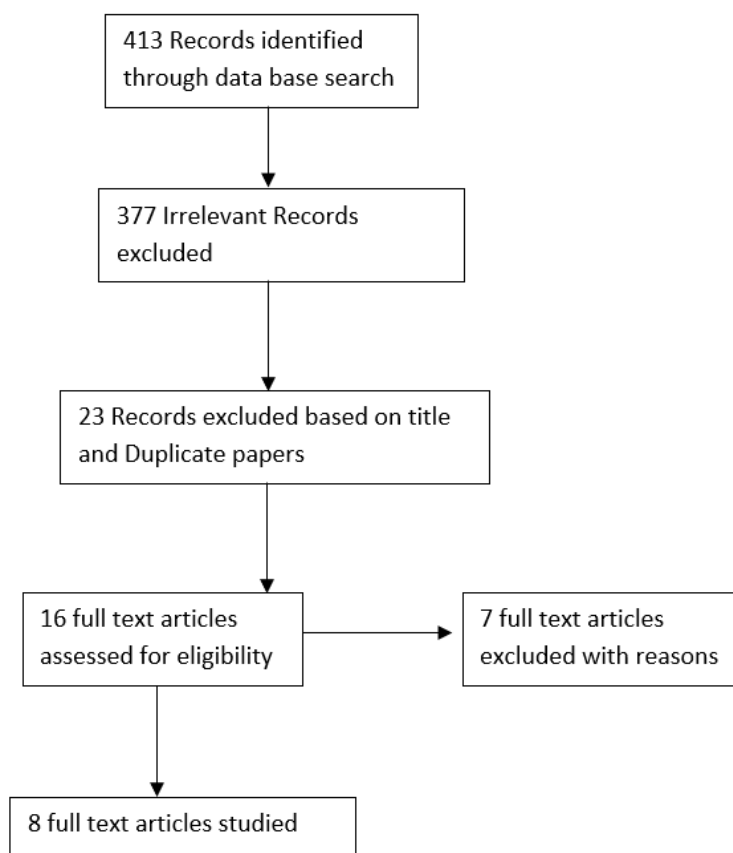
Researchers more than 15 years old to make the search results fair stated that the goal of nurses examining books is to improve service. Articles were eliminated that have not been originally published in English due to the probability of linguistic prejudice as a consequence of the authors' limited expertise and the chance of an incorrect translation. Boolean search for relevant terms and then filtering them

using different filters depending on inclusion criteria was done (See table below). This limited query to 200 CINAHL records, 140 Medline records, and 73 PubMed records. A PRISMA flow diagram was framed. Numerous things were deleted due to their insignificance to the study's subject. Duplicates were removed and studied the abstracts of each article. Additionally, papers were excluded that did not include meta - analytic review, leaving a total of eight publications that fit the inclusion criteria for this systematic review.

16 studies that we recognised as potentially helpful but later eliminated are included, along with their respective reasons for exclusion.

Inclusion Criteria	Exclusion Criteria
Adolescents and adults more than 18 year of age having disability	Non Peer reviewed articles, Conference Proceedings
Articles written in English	Articles published more than 15 years ago
Articles Free to access	Paid articles
Peer reviewed articles	

Prisma flowchart



Results

The finished compositions will be subjected to critiques and analysis. Eight studies are included in the study. The use of

a conceptual framework (The C.A.S.P. tool, 2018) enabled the assessment of the overall and understanding of the literature. The table below summarises each article.

Author and Year	study design	Sample size	Exposure	Key findings
(Žunić-Pavlović, Pavlović and Glumbić, 2013)	Survey	100	Patterns of cigarette, alcohol and illicit drug	Substantial number of adolescents with ID had experienced drug use
(Godeau and Sentenac, 2017) [6]	Cross Sectional Survey	7023	Tobacco, alcohol and cannabis use	Tobacco and alcohol use rates were similar between ULIS and general population

(Reis, Wetzel and Häbler, 2017) ^[13]	Cross Sectional Survey	329	Alcohol use	They are at an increased risk for intoxication and subsequent at-risk behaviors
(Taukoor <i>et al.</i> , 2017) ^[17]	Cross Sectional Survey	162	Alcohol use	significant direct associations between substance use and history of abuse or neglect, forensic history, educational setting, admission status, and the psychiatric diagnoses of schizophrenia, other psychotic disorders, and bipolar mood disorder.
(Kerr <i>et al.</i> , 2017) ^[7]	Focused Group Interview	16	Tobacco and alcohol	social and emotional influences for substance abuse
(Eisenbaum, 2018) ^[2]	Cross Sectional survey	501	Tobacco and Smoking	More tendency of smoking
(Salavert <i>et al.</i> , 2018) ^[14]	Cross Sectional and Retrospective study	17834	Substance use	The use of more than one substance was the most frequent pattern
(McGillivray and Moore, 2009) ^[12]	Cross Sectional Study	30	Substance abuse	possible link between substance abuse and offending behaviour

(Žunić-Pavlović, *et al.* 2013) explored the prevalence and patterns of cigarette, alcohol and illicit drug use among adolescents with mild intellectual disability (ID) residing in different types of living arrangements. A total of 100 male and female adolescents, aged 13–20 years, attending special schools for students with ID completed a self-report measure on drug use. Fifty adolescents lived with their parents, and the other fifty lived at residential schools. Overall, the prevalence rates of having ever used cigarettes, alcohol and marijuana were 63%, 49% and 4%, respectively. Boys were more likely to use drugs than girls. The higher prevalence and more severe patterns of drug use were found in adolescents living in residential settings. The significant differences were mainly related to smoking (Žunić-Pavlović, Pavlović and Glumbić, 2013).

Godeau *et al.* (2017)^[6] examined tobacco, alcohol and cannabis use among French students enrolled in special units for students with disabilities (ULIS) at mainstream junior high schools compared to those of general population of the equivalent age; and explores factors associated with substance use among ULIS students, known to present mostly mild-ID. In 2014, a questionnaire adapted from the international HBSC/WHO study was administered to 700 ULIS students (mean-age 14.2). Comparative data were gathered from 7023 junior high-school students (mean-age 13.6) in the general population. Among students <14 years-old, tobacco and alcohol use rates were similar between ULIS and general population. For students ≥14, alcohol use remained comparable, while tobacco and cannabis use were higher in general population (Godeau and Sentenac, 2017)^[6].

Reis, Wetzel *et al.* (2017)^[13] investigated the association between mild or borderline intellectual disability (MBID) and alcohol use in adolescents have not examined whether MBID is an independent risk factor for drinking. Overall, 329 students from two schools for children with MBID self-reported their drinking behavior via questionnaires, and 329 students from regular schools were matched to this group by gender, age, family composition, and parental drinking behavior. Matched pairs were compared based on alcohol consumption and motivation to drink. MBID is a protective factor, as disabled adolescents drink less on average. This effect is mainly due to larger proportions of youth with MBID who are abstinent. When male adolescents with MBID begin to drink, they are at an increased risk for intoxication and subsequent at-risk behaviors. Motivations to drink were explained by an interaction between MBID

and consumption patterns. (Reis, Wetzel and Habler, 2017)^[13].

(Taukoor *et al.*, 2017)^[17] aimed to determine the prevalence of, and associated risk factors for, substance use in adolescents with mental illness attending a mental health service. Data was collected from hospital records of 162 adolescents, using a structured data sheet, over a two-year period. Substance use was more significant in older adolescents and those with severe mental illness. Sixty-two (38.3%) adolescents used substances. Thirty-seven (38.1%) male adolescents reported substance use compared to 25 (38.5%) female adolescents. Alcohol was the most commonly used substance ($n = 48$; 29.6%), followed by cannabis ($n = 32$; 19.8%). There were significant direct associations between substance use and history of abuse or neglect, forensic history, educational setting, admission status, and the psychiatric diagnoses of schizophrenia, other psychotic disorders, and bipolar mood disorder. (Taukoor *et al.*, 2017)^[17].

Kerr *et al.*, (2017)^[7] addressed an identified gap in the current evidence base, this study sought to gain an understanding of the tobacco- and alcohol-related health promotion needs of this client group. Informed by the principles of social cognitive theory, data were collected using focus group and telephone interviews. Participants were 16 people with intellectual disabilities, two family carers and 15 health and social care professionals. Data were analysed using the Framework approach. Four themes were described: being like others; social and emotional influences; understandings, misunderstandings and learning from experience; and choices and challenges. Reasons for smoking and drinking alcohol echoed those of the general population; however, health promotion needs were more complex (e.g. linked to problems with consequential thinking; low levels of self-efficacy). (Kerr *et al.*, 2017)^[7].

(Eisenbaum, 2018)^[2] examined tobacco product use and smoking frequency and amount among a sample of US Special Olympics athletes with IDD. Multiple regression analysis was used to test whether age, gender, body mass index, blood pressure, bone density, eating fruits and vegetables and family member tobacco use were correlated with the number of cigarettes smoked per day. The sample of people with IDD who used tobacco ($n = 501$) were aged 18–75 ($M = 33.37$) and 76.4% were male. About 73.6% reported cigarette use only, 10.6% reported dual or poly use of cigarettes and other tobacco products (cigars, pipe, and chewing tobacco) and 15.8% reported using only tobacco

products other than cigarettes. Men were more likely than women to use tobacco products other than cigarettes. Of the cigarette smokers, 79.6% were daily smokers, and their mean cigarettes per day was 10.08 (SD = 9.50). Special Olympics athletes who did not have low bone density and those who consumed fruits and vegetables less than daily reported higher numbers of cigarettes per day. (Eisenbaum, 2018)^[2].

Salavert *et al.*, (2018)^[14] undertook a descriptive, cross-sectional and retrospective study by means of a review of clinical histories of all patients with a diagnosis of ID, admitted in a period of 10 years. Among the final sample of patients included, 52.3% had a mild ID, 40.9% an unspecified ID, 3.4% a moderate ID and another 3.4% a severe ID. More than one third of the sample met criteria for a SUD. The main SUD was cannabis use disorder (25%), followed by alcohol use disorder (22.7%) and cocaine use disorder (13.6%). The use of more than one substance was the most frequent pattern. Cannabis use disorder and cocaine use disorder were overrepresented in the group with mild ID. A greater number of psychiatric admissions was observed for the group with SUD. Specialised mental health services for ID and specialised addiction network facilities were much less involved in the care of these patients that could be expected according to good clinical practice recommendation (Salavert *et al.*, 2018)^[14].

(McGillivray and Moore, 2009)^[12] compared the rate of self-reported alcohol and other drug use in a sample of 30 young adults with mild intellectual disability whose offending behaviour had resulted in involvement in the criminal justice system, with a matched comparison group of 30 non-offenders. Performance on an alcohol and other drug knowledge test was also compared. The results indicated that many individuals with mild intellectual disability regularly consumed alcohol and used illicit drugs. Furthermore, the data suggest a possible link between substance abuse and offending behaviour in this population. Individuals who had offended reported greater use of both legal and illicit drugs than their non-offending counterparts (McGillivray and Moore, 2009)^[12].

Discussion

The findings from the present study suggest that a substantial number of adolescents with ID had experienced drug use (Žunić-Pavlović, Pavlović and Glumbić, 2013). Among adolescents, low perceived health/life satisfaction, divorced/separated parents and high perceived academic demands were associated with tobacco use. Bullying, not liking school very much and attending schools outside a deprived area were associated with alcohol use. Having had sexual intercourse and not perceiving one's health as excellent were associated with cannabis use. Having dated was associated with using all three substances. (Godeau and Sentenac, 2017)^[6] For male adolescents with MBID, there appears to be an "all-or-nothing" principle that guides alcohol consumption, which suggests a need for special interventions (Reis, Wetzel and Habler, 2017)^[13] Inverse associations were found between substance use and adjustment disorders, attention deficit hyperactivity disorder, and intellectual disability. People with IDD who smoke cigarettes are just as likely as smokers in the general population to smoke daily. Improving overall health behaviours may be important in helping smokers with IDD to reduce their tobacco use. Research is needed to

understand longitudinal patterns of tobacco use and how to prevent tobacco use among people with IDD (Eisenbaum, 2018)^[2]. Kerr *et al.* provided insight into the tobacco- and alcohol-related health promotion needs of people with intellectual disabilities. There is a need for integrated service provision that addresses both personal and environmental influences on behaviour (Kerr *et al.*, 2017)^[7]. Substance use disorder in patients with ID and mental health disorders are prevalent, which makes this issue an area of interest for future improvements in case identification, proper referring to specialised treatment resources and an increasing research focusing on specific therapeutic approaches (Salavert *et al.*, 2018)^[14].

In sum, the prevalence rates of SU(D) among individuals with MBID range from almost non-existent to highly prevalent. This could be related to methodological differences between the studies, but also to variability in vulnerability to developing SUD between subgroup.

The results of this study indicates an urgent need for substance misuse programmes for at risk youth, and the introduction of dual diagnosis intervention programme.

Limitations

The purpose of this study aims to critically review current evidence contributing to the problems of substance abuse among the disabled adolescents. This was done via the use of keyword combinations and Boolean operators. The shortcomings in the included studies and the paucity of study in this crucial topic, particularly in Asian nations, while being the most interconnected globally, are major limitations of this systematic review. Given the cultural disparities in adolescents, community infrastructure, and child-rearing practises, these research were conducted in the different countries and as a result, findings may vary not be directly relevant to more ethnically varied communities.

Conclusion

SUD prevention should start at a young age for children with MBID and all treatment interventions should be tailored to the needs of those with MBID. Care providers and policy makers should collaborate with ID-care in the development and implementation of these prevention and intervention programs. A collaborative approach with ID-care will contribute to the success of such a treatment effort and will provide support to professionals working within addiction medicine learning to work with individuals with MBID. Lastly, care providers and policy makers should invest in system integration, interdisciplinary collaboration, training of staff, and reducing treatment barriers to improve the accessibility of care for individuals with MBID. This research, together with the suggestions for policy and practice, are essential for improving the care of individuals with MBID and SUD. In addition, research within addiction medicine should identify barriers to treatment access and propose ways to overcome these barriers and aid referral, including identifying ways to promote cross-system collaboration between ID-care and addiction medicine.

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