Children, Adolescents and Young Adults: An Introduction

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Abstract

One of the major challenges that young people face is the risk of initiating substance use, which is especially high at this age. It is a vital area of study because if we can effectively intervene early, we will prevent chronicity as well as the potential development of other mental disorders and even premature death, with its impact on families and community. It is vital because an understanding of the mechanism of development in young people may provide pointers to understanding the nature of addiction. Promising interventions for adolescents who misuse substances have been identified and we should build on findings to date to further enhance methods to improve treatment outcome, accessibility, implementation, and relapse prevention through the integration of research findings into treatment.

Little seems to engender so much disquiet as young people who use drugs. This is for many obvious, and sometimes not so obvious, reasons. There is fear, concern, and worry. This can be justified, since one of the major challenges that young people face is the risk of initiating substance use, which is especially high at this age. This may result in a plethora of unwanted acute and chronic social,

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psychological, and physical consequences and may occasionally be life-threatening. The risk of self-harm and suicide is of concern to clinicians for every patient they assess.

Intervention improves outcomes; thus, it is right that substance use in adolescence is an area of significant individual and public health concern. It is also likely that the earlier the intervention, the more chance there may be of a successful outcome.

So, while there is every reason for parents and the communities in which we live to feel apprehensive, we have attempted to focus on a few key areas in this domain, where promising advances over the last decade have elucidated our understanding and treatment of young people with substance use problems.

We have been fortunate that our colleagues from across the globe have agreed to contribute to this vital topic. It is vital because the majority of people who experience lifelong substance use problems have started in their teenage years. In some, their mothers and fathers will have suffered too. Therefore, this young cohort gives us clues about the degree to which substance problems may be inherited genetically and the product of environment.

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Thus, we have chosen topics that are important and controversial, and authors have critically analyzed the material which they have presented:

The overview chapter by Milin and Walker which focuses on enhancing comprehension of adolescent substance use disorders (SUD) in addressing the following areas, epidemiology, vulnerability and developmental course, comorbidity, assessment, treatment, and outcomes, provides us with a valuable synopsis of the current state of knowledge on adolescent SUD.

Schlosberg and Shoval remind us that suicide is the second or third leading cause of death among adolescents in the industrialized world. They present data which substantiates that the connection between suicide and substance abuse in adolescents is very strong and poses substance use disorders as a major risk factor for emergent suicidal behaviors. They highlight the role of salient moderating factors such as comorbid psychiatric pathologies, age, gender, and sexual minorities.

Dr. Brook and colleagues have demonstrated that adolescent substance use is best understood as determined by a multitude of risk factors in different developmental contexts (i.e., individual, micro-and macro-contextual). However, it also describes how the developmental pathways to adolescent substance use can be modified by protective factors, including an attachment between parents and children, which have the ability to mitigate the impact of risk factors on adolescent substance use and abuse. Of particular importance, they draw attention as to how this knowledge can optimize preventive strategies and note the importance of cultural and developmental relevance and appropriateness in prevention.

Dr. Chang has placed a spotlight on the paradox that the treatment of ADHD in this population is often with medications with a risk of diversion and hence abuse.

He reviews clinical trials so as to understand the relative benefits versus risks because of their clinical relevance. A review of the literature in these areas leads then to an effort to translate research findings into relevant clinical practice that maximizes benefits but minimize risks.

Drs. Velez and Janssen alert us to the fact that it has been established that in utero exposure to psychoactive substances is one of the major preventable causes of disorders of fetal and infant/child growth and neurodevelopment. The effects of these neurodevelopmental alterations can appear at any time of the individual's life and can affect a variety of domains including developmental, behavioral, cognitive, and adaptive functioning. Moreover, maternal chronic substance use can compromise the maternal neural circuitries that subserve executive functioning and the regulation of stress response and consequently the ability to appropriately parent children. It is fascinating that the expression of the teratogenic effects of perinatal exposure to substances can be exacerbated by a toxic or unstable prenatal and/or postnatal environment and ameliorated by a nurturing and stable one.

Drs. Aklin and Chambers have provided an absorbing examination of the integration of translational science into adolescent addiction which has the potential to greatly improve treatment outcomes and relapse prevention. Areas of research that focus on potential behavioral and neurobehavioral targets have direct implications for treatment efficacy and build on the current treatments that have been successful. This is of great public health importance, given the clear relationship between initiating treatment, remaining in treatment, long-term abstinence, and relapse. Developmentally appropriate, targeted treatments are likely to be more efficient and potent, require less staff time, lead to less relapse, and ultimately reduce the burden on providers.

What are the striking commonalities that emerge? The first is that substance use is mainstream – it is not exceptional any longer. It has percolated through to younger age groups and can be understood through the developmental lens of adolescence and young adulthood.

A second thread is that substance misuse in young people is not just the responsibility of direct face-to-face interaction with medical professionals when a young person has an identifiable clinical "problem." It is a public health issue in that some of the precursors are socially determined and ramifications have impact on the community beyond the individual themselves.

Another common feature is that of engagement of a young person who is often vulnerable, even marginalized. There are a host of factors which may limit the degree to which a young person – and their family – might be willing to become engaged. This may depend as much on features of the intervention program as the individual and family seeking treatment. The inclusion of ongoing screening for substance use in adolescents as part of primary care may facilitate the necessary discussion of substance use and misuse.

A further notion which cuts across all contributions to this section is that of the need for coordination since teenagers who misuse substances will require involvement of multiple systems. This will include holistic and systematic and often repeated assessment. It will include coordination of health services such as primary

health care, specialist mental health, substance misuse, and general medical services. It will include coordination with other providers such as educational, criminal justice, and child welfare services. Young people with combined mental and substance use disorders exhibit greater severity of clinical symptoms, functional impairment, poorer response to treatment, and service utilization.

An additional unifying observation is that account needs to be taken of the total psychosocial environment of the adolescent at the point of assessment through to intervention and that this needs to be a continuous process due to the rapidly changing nature of adolescent substance use which can be unpredictable. Furthermore, there is agreement that effective preventive and treatment interventions must be developmentally, as well as culturally, appropriate and should be tailored to the individual's developmental stage and cultural context. Importantly, treatment itself can be preventive in terms for further deterioration.

Greater specificity in treatment choice which is explicitly tailored to the individual resonates throughout. For, although the research base has expanded enormously over the last decade, this itself leads to the conclusion that understanding is still at a relatively early stage! Broadly, psychosocial family-based interventions and developmentally appropriate CBT with MET as part of outpatient interventions have been demonstrated to provide the most consistent gains. There is accumulating evidence that supports the benefit of adolescent SUD treatment programs across different settings, including residential, short-term residential/inpatient, partial hospitalization/day treatment and outpatients, as well as some promising findings with respect to aftercare. This is encouraging. However, we are still not in a position to select which treatment modality might be more suited and effective for a particular patient. Indeed, contributors consider that involvement of the family and community is pivotal in the implementation of change.

Principally, there is a consensus for a need for larger studies with regard to the place of extended or maintenance pharmacological therapies for young people with substance use problems, especially in those with comorbid mental health problems. This represents the majority of adolescent substance misusers in residential/inpatient facilities: there are substantial implications for initial engagement, quite apart from retention in treatment, with the young person who has combined disorders. Rapid entry to treatment enhances retention.

Despite this, while effectiveness of treatment has improved, service utilization has remained relatively stable. It is also the case that, in many countries, the development of service provision has not matched need. Why is this? What are the barriers? Introduction and implementation of novel interventions can be problematic: staff are not always susceptible to change. Although the most severely afflicted young people may be treated in inpatient units, at least initially, the possibility of supporting teenagers in their communities might meet with greater success. Weighty barriers remain such as stigma, safety, transportation, family commitment, and need resolution. Mutual aid is another growing area especially if continuing care is required to sustain recovery. In keeping with this, all authors emphasize that appreciation be given to the developmental stage of the young person and their cultural background.

That the use of new technologies may support investigations is emerged as a key consideration from further biological research to the delivery of interventions. Some intriguing suggestions and pointers for the future have been described such as targeting impulsivity, risk-taking propensity, and delay discounting or choice preference. Neurobiological development of reward function is being investigated by neuroimaging studies and is a current research focus, and this may assist in the expansion of tailor-made therapies to enhance outcomes and prevent relapse. Having a greater appreciation of the specific characteristics of reward-related behavior may lead to enrichment of the socio-behavioral model by encouraging and training young people to implement coping skills by curbing self-control and impulsivity. Research on decision making, risk reduction, and behavioral control may lead to implementation of more powerful targeted interventions. While all authors agreed that there has been a wealth of research over the last couple of decades, it is essential that this is ongoing and expanded. We are aware of certain gaps, for example, the developing world, which appears to be on the cusp of the emergence of serious substance problems in its youth, has not been adequately represented.

As Dr. Chang noted in his discussion on ADHD and addiction, "Contributions from epidemiology, genetics, neuroimaging, psychopharmacology, and of course long term clinical follow up (are needed) to understand that SUD is a significant complication of the lack of adequate treatment of ADHD, often dating from early childhood," though current treatment for ADHD may not reduce this risk. He also pointed to "a bidirectional influence, especially with the use of tobacco and alcohol during pregnancy increasing the risk for development of ADHD in the fetus." This insight that the research contributions themselves need to be multidisciplinary are echoed throughout.

All authors agreed that promising interventions for adolescents who misuse substances have been identified and that we should build on findings to date to further enhance methods to improve treatment outcome, accessibility, implementation, and relapse prevention through the integration of research findings into treatment.

To conclude, as Drs. Aklin and Chambers have aptly stated:

This is of great public health importance, given the clear relationship between initiating, remaining in treatment, long-term abstinence and relapse. Developmentally appropriate, targeted treatments are likely to be more efficient and potent, require less staff time, lead to less relapse, and ultimately, reduce the burden on providers.