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Should Adolescents be Included in Emerging Psychedelic Research?

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Article abstract

Recent evidence shows significant potential for therapies involving psychedelic substances such as psilocybin and MDMA to improve clinical outcomes for patients experiencing various mental disorders. However, research to date focuses almost exclusively on adults. I argue that adolescents should be included in research into psychedelic therapies. First, I demonstrate the pressing need for novel interventions to address the growing mental health burden of adolescents, and I draw on empirical evidence to show that research into psychedelic therapies presents an opportunity to address this shortfall. Secondly, I argue that psychedelics pose low risk to young patients, particularly relative to existing psychiatric medications. I then address two major concerns specific to adolescent contexts. First, I address the risks of using psychedelic substances at earlier stages of physiological and cognitive development. I note that the lack of understanding of the risks underscores the need for including adolescents in research. I then address the added complexity of consent in the adolescent context. I highlight some additional concerns that should be addressed in an “enhanced” informed consent process for adolescents and defend the view that capable adolescents should be able to consent to psychedelic interventions. I ultimately hold that including adolescents in emerging psychedelic research has the potential to substantiate innovative treatments that could improve their clinical outcomes, long-term mental health and quality of life.

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ARTICLE (ÉVALUÉ PAR LES PAIRS / PEER-REVIEWED)

Should Adolescents be Included in Emerging Psychedelic Research?

Khaleel Rajwani[a]

Résumé

Des données récentes montrent que les thérapies faisant appel à des substances psychédéliques telles que la psilocybine et la MDMA ont un potentiel important pour améliorer les résultats cliniques des patients souffrant de divers troubles mentaux. Cependant, les recherches menées à ce jour se concentrent presque exclusivement sur les adultes. Je soutiens que les adolescents devraient être inclus dans la recherche sur les thérapies psychédéliques. Tout d'abord, je démontre le besoin urgent de nouvelles interventions pour répondre au fardeau croissant de la santé mentale des adolescents, et je m'appuie sur des preuves empiriques pour montrer que la recherche sur les thérapies psychédéliques offre une opportunité de répondre à ce manque. Deuxièmement, je soutiens que les psychédéliques présentent un faible risque pour les jeunes patients, en particulier par rapport aux médicaments psychiatriques existants. J'aborde ensuite deux préoccupations majeures spécifiques aux contextes adolescents. Premièrement, j'aborde les risques liés à l'utilisation de substances psychédéliques à des stades précoces du développement physiologique et cognitif. Je note que le manque de compréhension de ces risques souligne la nécessité d'inclure les adolescents dans la recherche. J'aborde ensuite la complexité supplémentaire du consentement dans le contexte des adolescents. Je souligne certaines préoccupations supplémentaires qui devraient être abordées dans un processus de consentement éclairé "amélioré" pour les adolescents, et je défends l'idée que les adolescents capables devraient être en mesure de consentir à des interventions psychédéliques. Je soutiens finalement que l'inclusion des adolescents dans la recherche émergente sur les psychédéliques a le potentiel de justifier des traitements innovants qui pourraient améliorer leurs résultats cliniques, leur santé mentale à long terme et leur qualité de vie.

Mots-clés

thérapie psychédélique, recherche sur les psychédéliques, santé mentale des adolescents, psychiatrie des adolescents, psilocybine, kétamine, MDMA, LSD

Abstract

Recent evidence shows significant potential for therapies involving psychedelic substances such as psilocybin and MDMA to improve clinical outcomes for patients experiencing various mental disorders. However, research to date focuses almost exclusively on adults. I argue that adolescents should be included in research into psychedelic therapies. First, I demonstrate the pressing need for novel interventions to address the growing mental health burden of adolescents, and I draw on empirical evidence to show that research into psychedelic therapies presents an opportunity to address this shortfall. Secondly, I argue that psychedelics pose low risk to young patients, particularly relative to existing psychiatric medications. I then address two major concerns specific to adolescent contexts. First, I address the risks of using psychedelic substances at earlier stages of physiological and cognitive development. I note that the lack of understanding of the risks underscores the need for including adolescents in research. I then address the added complexity of consent in the adolescent context. I highlight some additional concerns that should be addressed in an "enhanced" informed consent process for adolescents and defend the view that capable adolescents should be able to consent to psychedelic interventions. I ultimately hold that including adolescents in emerging psychedelic research has the potential to substantiate innovative treatments that could improve their clinical outcomes, long-term mental health and quality of life.

Keywords

psychedelic therapy, psychedelic research, adolescent mental health, adolescent psychiatry, psilocybin, ketamine, MDMA, LSD

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INTRODUCTION

After decades of criminalization and stigmatization, Western clinicians and researchers have shown renewed interest in the use of psychedelic substances as therapeutic interventions for treating mental illnesses (1). However, research on psychedelic therapies has, to date, focused almost exclusively on adults. In what follows, I argue that adolescents[1] under 18 who are typically excluded should be included in emerging psychedelic research. First, I note the need for novel interventions to address the growing mental health burden of adolescents and draw upon empirical evidence showing significant therapeutic potential for psychedelic-assisted therapies that might address this shortfall. Second, I argue that there is low risk associated with psychedelic interventions relative to current psychiatric drugs commonly prescribed to adolescents. I then respond to two concerns specific to psychedelic use in adolescent contexts: risks associated with using psychedelic substances at earlier

[1] I use the term adolescent to refer to individuals on the spectrum of development between puberty and adulthood. Although this period often loosely corresponds with the legal definition of "minor", I maintain the Canadian Paediatric Society's view that "a definition of adolescence based solely on chronological age is unjustified and impractical". I thus proceed with the term adolescent and note the critical importance of individual context in making practical determinations about informed consent. For discussion see (2).

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stages of development, and complexities around autonomy in adolescent care. I conclude that there is a strong imperative to include adolescents in research, and that it would be unethical to prevent adolescent populations from investigating psychedelic therapies with the potential to improve their clinical outcomes, long-term mental health and quality of life.

The term “psychedelic,” derived from Ancient Greek terms meaning “mind-manifesting,” encompasses a variety of psychoactive substances that can subtly or profoundly alter consciousness, perception of reality, cognitive functions, emotional experiences and mood. “Classical” psychedelics include naturally derived serotonergic hallucinogens like psilocybin, N,N-Dimethyltryptamine (DMT), mescaline and synthetic counterparts like Lysergic acid Diethylamide (LSD). However, the contemporary use of the term “psychedelics” often connotes a broader set of psychoactive substances including 3,4-Methyl enedioxymethamphetamine (MDMA), ibogaine, ketamine and others that arguably share phenomenological and psychopharmacological similarities to “classical” serotonergic psychedelics. Although they differ in their mechanisms of action, non-classical psychedelics are frequently reported to elicit psychedelic experiences in certain contexts and dosages (3). Here, I use the term psychedelics in this broader sense, to encapsulate the set of substances that alter consciousness and, in many cases can effectively lead to psychological healing experiences, particularly when used to assist conventional psychotherapeutic processes and treatments.

The psychedelics discussed are currently being researched in adults as part of clinical trials. As part of this ongoing research, psychedelics are prescribed and administered in a clinical setting, under the supervision of therapists and often as part of extensive psychotherapy. When used in conjunction with psychotherapeutic techniques, the neurochemical and phenomenological effects of psychedelic drugs – including altered self-perception, increased introspection, positive mood changes, and improvements in personality traits such as openness and empathy – can contribute to a long-term decrease in psychiatric symptoms (4). While many psychedelic substances are currently being researched as psychiatric treatments, only Ketamine (specifically Intranasal Esketamine) is currently approved by the US Food and Drug Administration for the treatment of adults with “treatment-resistant” depression (5). Other substances have been granted accelerated status by regulatory bodies based on early results; for example, the use of MDMA for the treatment of post-traumatic stress disorder (PTSD) is currently being tested in accelerated phase 3 clinical trials in adult patients (6).

POTENTIAL BENEFITS OF PSYCHEDELIC THERAPIES FOR ADOLESCENTS EXPERIENCING MENTAL ILLNESS

Mental illness is a leading cause of disability among young people (7). Youth aged 15-24 are more likely to experience a mental illness than any other group (8). Around 70% of mental health challenges emerge in adolescence and at least 1 in 5 Canadian youth are currently experiencing a mental health challenge (9). In recent years, research has shown increased rates in the prevalence of diagnosed mood and anxiety disorders, binge-drinking, and past-year suicidality, among other symptoms of mental distress (10). In Canada and the US, mental health and addiction-related visits to the Emergency Department have increased among youth aged 14-21 – in Ontario, such visits increased by 89% from 2006-2017 (7,11). The frequency and severity of mental health challenges among youth is an issue globally (12,13). Additionally, while there is a major gap in literature, early findings have shown increases in depressive and anxiety symptoms in children and adolescents due to the unprecedented mental health challenges related to the COVID-19 pandemic (14).

It is in this context that leading clinicians and researchers have highlighted the “gross inadequacies in access and quality of [mental health] care” available for Canadian youth (15), and have argued that new conceptual frameworks and interventions are urgently needed to address the growing youth mental health burden around the world (10,12,13,15). The separation of child-adolescent and adult mental health services, and high rates of disengagement after accessing services, contribute significantly to this problem. Further, inadequacies in youth mental health care stem not only from inadequate access and extreme delays in care, but also from conceptual problems with the biomedical and institutionalized nature of mental health care available to youth, and heavy dependence on emergency services instead of family- and community-centric and preventative care (15).

The emerging paradigm of psychedelic-assisted therapies presents a novel model of psychiatric intervention that is grounded in experiential healing and draws on biopsychosocial approaches to therapy that challenge conventional biomedical frameworks, pharmacological approaches and reliance on institutionalization and emergency interventions (16). Evidence in adults 18 and over suggests that psychedelic-assisted therapies could assist adolescents under 18 experiencing similar mental health challenges, especially those who have not responded to current-evidence based interventions. Randomized clinical trials have shown that psilocybin-assisted and ketamine therapies are safe and effective treatment for producing significant, rapid and sustained antidepressant effects in adult patients experiencing major depressive disorder who have not responded to conventional treatments (17-19) MDMA assisted psychotherapy has proven to be an effective and innovative treatment for PTSD (20,21). Evidence suggests that ibogaine, psilocybin, ayahuasca and ketamine may show promise as effective treatments for alcohol, opioid and other substance use disorders (22,23). Psilocybin- and LSD-assisted psychotherapy can significantly reduce anxiety in patients with life-limiting illnesses (24-26). In addition, classical psychedelics, as well as ketamine, have been shown to reduce suicidality (27,28).

Adolescents can and do experience mental illnesses including anxiety, depression, substance use disorders, PTSD, suicidality and even anxiety related to terminal diagnoses. Furthermore, many adolescents experiencing mental illnesses do not respond to existing evidence-based treatments and interventions. Evidence in adults demonstrates the clear potential for psychedelic

therapies to effectively treat a variety of mental illnesses, reduce suffering and improve quality of life. These potential benefits are substantive reasons that adolescents ought to be included in research into psychedelic therapies.

THE LOW RISK OF PSYCHEDELICS RELATIVE TO CURRENT PSYCHIATRIC MEDICATIONS

There is strong scientific consensus that classical psychedelic substances have relatively low risk in relation to conventional measures of drug-related harm (29). Classical psychedelics like psilocybin and LSD bear almost no risk of overdose, long-term health effects, or addiction. Adverse effects are short-lived, and any psychiatric symptoms related to psychedelic use are ordinarily resolved within 24 hours (30). Psychopharmacological research supports the conclusion that psychedelic substances have a low relative risk. A famous comprehensive analysis of drug-related harms found psilocybin mushrooms were the least harmful of 20 commonly used drugs, followed by LSD (31) Nutt notes that “It’s virtually impossible to die from an overdose of [classical psychedelics]; they cause no physical harm; and if anything they are anti-addictive, as they cause a sudden tolerance which means that if you immediately take another dose it will probably have very little effect.” (30) Recent studies into the effects of psilocybin and LSD on death-related anxiety in patients with terminal diagnosis found no serious adverse effects (24-26). Lastly, a population study of over 130,000 Americans failed to find any evidence for a link between LSD, psilocybin or mescaline use and mental health problems including psychosis or suicidal behaviour (30). Population level studies without a correlation between psychedelic use and poor mental health outcomes may have other explanations, for example, those who begin to experience symptoms of mental distress may have simply stopped using psychedelics. However, the large and demographically diverse sample points towards a lower likelihood of serious and widespread harms if research proceeds. Overall, scientific evidence indicates that risk of serious harm related to classical psychedelic drugs is low. This low risk profile, in relation to evidence for their substantial therapeutic benefits in adults, supports the ethical justifiability of research in adolescents.

Non-classical psychedelics like MDMA and Ketamine have some greater risks of overdose, long-term health harms and dependence, than classical psychedelics. For example, in some cases typical doses of MDMA exacerbated existing mental health conditions, sensitivities and comorbidities and precipitated acute anxiety among other potentially severe adverse effects and complications (20). In extremely high doses, or when mixed with other drugs, MDMA related toxicity has caused death (32). However, despite the added risks of non-classical psychedelics, comprehensive psychopharmacological analysis finds their overall risk of conventional drug-related harms lower relative to common drugs like alcohol, heroin, or methamphetamine (31). Furthermore, participation in clinical trials would require patients to go through an extensive medical and psychiatric screening process for particular medical problems, comorbidities or sensitivities in order to screen out those who are at higher risk of severe adverse effects and complications. Finally, the risk of harm is even lower in a controlled clinical context under the supervision of medical professionals and therapists. Thus, the consensus on the general safety of both classical and non-classical psychedelics, particularly in clinical settings, should reassure practitioners and researchers who are hesitant about psychedelic research due to conventional drug-related harms.

The greatest harms of psychedelic drugs are predominantly related to phenomenological distress and impairment of mental functioning during and immediately after the psychedelic experience itself. One such risk is the possibility of a “difficult” experience or “bad trip”, which describes the negative emotions, anxiety, stress, and disorientation, among other descriptors associated with radical temporary changes in consciousness, phenomenological experience and perception of reality. “Bad trips” can also involve the re-living and re-experiencing of traumatic memories and may exacerbate existing symptoms of distress or psychiatric disorders such as schizophrenia (33). However, while these experiences can be extremely challenging, the implication that “difficult” experiences or “bad trips” constitute lasting harms is not a given – one study of individuals in the general population who reported difficult experiences on psilocybin found that 84% still said that they benefitted from the experience. Although roughly 7.6% sought some form treatment after the difficult experience, 97.9% of those had previously received treatment for symptoms before the experience, while 2.1% had no treatment history (34). Ultimately, the likelihood of risky behaviour or enduring symptoms of psychological distress due to psychedelic use is relatively low in the general population and is even lower in the context of controlled clinical studies (30,34).

Thus, there is little evidence suggesting psychedelics would have widespread and lasting negative effects, especially in situations typical of therapeutic use in controlled settings. On the other hand, there is a substantial body of evidence that shows other psychiatric medications commonly used by adolescents, including anti-depressants, anti-psychotics and stimulants, have far greater risks and potential for short- and long-term harm than psychedelics. For example, benzodiazepine and anti-depressant overdoses were involved in over 15,000 deaths in the USA in 2018 and thousands more ER visits (35). Among young patients, taking anti-psychotic medication is associated with a 3.5 times increase in unexpected deaths, excluding injuries and suicides (36). Commonly prescribed anti-depressant medications cause frequent adverse effects including changes in appetite and weight, emotional numbness, sexual dysfunction, worsening of underlying depression or anxiety, and suicidality; younger age is strongly correlated with total adverse effects experienced. Further, 59% of patients experienced withdrawal symptoms and 40% experienced addiction with antidepressants (37). Overall, existing psychiatric medications pose significant risks yet are generally considered ethically acceptable candidates for adolescent mental health research and are prescribed on and off label in the everyday treatment of mental disorders among adolescents. If there is general consensus among practitioners that the risks and adverse effects of these existing psychiatric medications may be outweighed by the therapeutic and quality of life benefits in many clinical and research contexts, then psychedelic substances are surely within the bounds of this risk-benefit analysis. In this comparative context, psychedelic substances thus fall in the range of what

researchers and ethicists consider acceptable drug-related risk for initiating psychiatric research in certain adolescents suffering from mental illnesses.

Finally, although there is limited health risk associated with psychedelic drug use itself, there are harms associated with the use of psychedelics for self-medication that are not present in controlled clinical settings. Evidence suggests that adolescents and young adults who use psychedelic drugs often lack access to medical and mental health services and counselling that would address their challenges; many adolescents self-medicate by using drugs like MDMA to cope with negative life situations including trauma, social stigma, individual and systemic discrimination, stress and psycho-emotional pain (38). A study found that among psychedelic-users who suffered from a mental disorder, 81% of them used psychedelics to treat or cure symptoms; respondents also reported that self-administered psychedelic interventions were more effective for treating or curing symptoms than interventions that had been prescribed to them by a medical professional (39). Although there are methodological weaknesses to self-reported studies, the lived experiences thousands of respondents provides an indication that self-administered psychedelic substances can improve symptoms of distress and quality of life; these findings support further and more robust research. Unfortunately, the risks associated with psychedelic self-medication outside of clinical settings are potentially grave: for example, the cross-contamination of illicit drug supplies of non-classical psychedelics like MDMA with synthetic opioids like fentanyl have contributed to the dramatic rise in fatal opioid overdoses in North America (40). Furthermore, due to the prohibition of psychedelics and other illicit substances, young people who use psychedelics – particularly Black, Indigenous and other racialized youth – experience severe harms including police violence, imprisonment, and exclusion from educational institutions and employment, which have destructive long-term consequences for their mental health, physical health and social well-being (41). All of these risks could be avoided when medically supplied psychedelic drugs are administered in a clinical context, under supervision of medical professionals and trained therapists. Research in adolescent populations is thus critical to understanding the practical effects of these drugs and reducing the harms associated with self-medication outside of clinical settings.

PSYCHEDELIC USE AT EARLIER STAGES OF DEVELOPMENT

A further concern is that despite the evident low risk of psychedelic substance use, particularly in supervised clinical settings, there may still be specific risks associated with their use at earlier stages of physiological and cognitive development. Critics may point to cases of mental health issues and psychotic episodes related to psychedelic use reported in some case reports as well as journalistic outlets and popular media. In *Psychedelics and Mental Health: A Population Study*, Krebs and Johansen directly address several issues in legitimizing such case reports as evidence in this context (30). First, they note that adverse effects of psychedelics are typically resolved within 24 hours. Second, they note that both mental illness and psychedelic use are prevalent in the population, and further, that the onset period of both typically occurs in early adulthood. This may lead to mistaken causal inferences. Thirdly, people may attribute psychiatric symptoms to the use of psychedelics due to their striking and transformative subjective effects. While legitimate concerns about harm to young patients are worth taking seriously, particularly those with pre-existing mental conditions such as psychotic disorders, Krebs and Johansen note that “Concern about psychedelic use seems to have been based on media sensationalism, lack of information and cultural biases, rather than evidence-based harm assessments.” (30) Historical stigma, criminalization, and lack of communication with those with lived experience of psychedelic substances may also lead to significant bias on the part of many health professionals in assessing such links. Beyond this, there is some evidence that indicates a lack of causal link between psychedelic use and psychosis and schizophrenia, particularly in the case of classical psychedelics like LSD (42). We should be skeptical of any assertions made about links between psychedelic use and lasting psychiatric and health effects without substantial evidence. At the same time, we should be skeptical of concluding too much from population-based studies that demonstrate no correlation between psychedelic use and health effects, as there may be a range of possible explanations for these findings. However, such studies, in combination with psychiatric and psychopharmacological analysis, support the general indication that proceeding with psychedelic research entails a lower likelihood of serious, inescapable and far-reaching harms to long-term mental health.

Aside from case reports, others may try to draw an analogy between evidence on other drugs, like cannabis, that have been shown to cause long-term effects on the developing brain in adolescence (43). However, there are some important disanalogies; for example, cannabis, alcohol and many other commonly studied drugs are often used on a daily or weekly basis, while immediate tolerance buildup makes classical psychedelics difficult, undesirable or impossible to use for their psychoactive effects in quick succession or on a frequent basis, except in micro-doses. These risks are further exacerbated in use outside of medical settings; most studies propose the use of psychedelic substances once or in moderation, in controlled clinical settings, and alongside other psychological treatments and therapies. These drugs would also not be prescribed for consumption outside of a therapeutic context. Clinically supervised psychedelic therapies would thus not have the same long-term risks as recreational use or daily prescribed use.

However, although there is still a sense that added ethical caution is warranted when it comes to the effects of drugs on adolescent development, particularly cognitive development, such caution is overstated in the case of psychedelic therapies. As discussed, there is evidence that psychedelic drugs are less risky than many current psychiatric medications. While we have some knowledge around the risks and side effects of drugs such as selective serotonin reuptake inhibitors (SSRIs) for adolescents (44), there is a major gap in the literature on the effects of psychedelic drugs in youth. There is a general consensus that researchers and clinicians are ethically justified in prescribing and studying the effects of drugs like SSRIs in adolescent populations, thus we should be skeptical of stigmatizing and rejecting psychedelic-related research with similar or

lower risk-profiles. As previously argued, psychedelic therapies are well within the practical levels of risk currently considered ethically acceptable by psychiatric researchers, ethicists and patients. Clinical research addressing the effects of psychedelic use in adolescents is ethically warranted and important for deepening knowledge and understanding of the benefits and risks of these therapies.

Second, the adolescent brain continues to develop and mature as late as 25 years of age. Psychedelic studies to date have included some patients aged 18-25 who represent various later stages of cognitive development in young adulthood. This demographic group has experienced the substantial therapeutic benefits of these interventions in emerging research. The restrictive limit of 18 years of age is an arbitrary chronological threshold that does not accurately reflect a particular stage of development (2) but serves to exclude adolescents who may stand to benefit from these interventions. Further, this exclusion from research prevents the development and distribution of knowledge that is valuable for adolescents experiencing mental illness beyond immediate research participants. Using a case-by-case analysis of decision-making capability, rather than arbitrary age limits, is a more just and ethically sound practical approach to complex issues of autonomy in adolescent healthcare.

Lastly, even if research does reveal risks for significant long-term impacts of therapeutic psychedelic use in adolescent patients under 18, this would not mean that it would be ethically impermissible to conduct research or prescribe such interventions. Instead, researchers and ethicists would have to account for these evidence-based harms in their ethical assessments of new research, and where approved, patients would ultimately judge whether the risks are acceptable as part of the informed consent process. Overall, the mere possibility of unknown risks of psychedelic use during the period of adolescence is not a conclusive argument against actively investigating their therapeutic use in adolescent patients. Moreover, a lack of understanding, data and evidence around psychedelics and brain development underscores the need for more robust research in adolescent populations with significant unmet health needs.

COMPLEXITIES OF AUTONOMY AND CONSENT IN ADOLESCENT CARE CONTEXTS

If the risks do not justify the exclusion of adolescents, what about the issue of consent? Psychedelic experiences are unlike that of any other psychiatric and medical treatments: they can lead to deep feelings of unity and connection with humans and nature, spiritual experiences and encounters with God(s), loss of ego and reduction in sense of self-importance, and inexplicable forms of knowledge and phenomenal experiences, among other unique effects. Psychedelic experiences can often lead to lasting changes in personality and worldview; patients may exhibit significant differences in judgement and beliefs relative to their baseline views. Psychedelic experiences can also induce anxiety and be extremely emotionally challenging. These characteristics of psychedelics raise interesting and complex questions related to the possibility of informed consent in psychedelic research (33).

Smith and Sisti argue that the effects of psychedelics like psilocybin are difficult to appreciate before the experience itself, and thus there is an imperative for an “enhanced” informed consent process that goes beyond typical informed consent procedures for other psychiatric interventions. They argue for disclosure and in-depth discussion with patients regarding the unique effects of psychedelics, including the possibility of significant shifts in values and personality and mental health risks like transient anxiety, challenging experiences, trauma re-exposure, and added risks for those with psychotic disorders or a family history of such disorders. This additional disclosure is sensible and critical for allowing patients to make informed decisions about these potentially transformative psychedelic therapies. They also argue that changes in mental states, emotional response, and judgement may lead to offering or withdrawing consent to therapeutic touch during the experience, and that autonomy should generally be respected in the moment of the experience, with careful judgement exercised by the therapist in context. Thus, in order for consent to psychedelic-assisted therapy to be considered ethically sound, these additional issues must be disclosed and discussed, in addition to the typical consent processes for mental health therapies (33).

This compelling argument around enhanced informed consent generalizes into adolescent research on psychedelics. If in the determination of capacity, the patient has “an ability to understand information relevant to a treatment decision and to appreciate the reasonably foreseeable consequences of a decision or lack of decision,” then they are deemed to be a capable decision-maker (45). While capacity widely varies with age and maturity, many adolescent patients will be considered capable decision-makers. Capable adolescents are not only able to make decisions about their own mental health, but act autonomously in their lives more generally; adolescents can consensually engage in life activities that bear risks and benefits, like having sex, experimenting with drugs, driving vehicles, consenting to employment and other contracts, etc. Offering evidence-based information and empowering adolescents to make decisions for themselves does not just respect autonomy, it is also crucial for delivering effective care and cultivating trusting relationships with clinicians. It is clearly justifiable to exclude non-capable adolescents from making complex decisions related to psychedelic therapies. However, arbitrarily excluding adolescents under 18 who are otherwise capable decisionmakers unjustly discriminates against them on the basis of age and excludes them from making the same kinds of reasonable decisions around psychedelic therapies as their adult counterparts. Given a valid enhanced informed consent process for a psychedelic research trial, there should be no difference between the capacity to consent of an adolescent deemed to be capable, and that of a capable adult. Thus, these capable adolescents should not be excluded on the basis of age.

However, the context of adolescence is unique, and so there are additional issues that should be disclosed and discussed as part of an ethically robust enhanced informed consent process for psychedelic research in adolescent settings. First,

researchers and clinicians should disclose the potential risks of psychedelic use at earlier stages of development to the relevant decisionmaker(s). As discussed above, there is little research into the additional risks of psychedelic use at earlier stages of physiological and cognitive development – thus the risks are largely unknown. This fact itself, along with any evidence-based information regarding the effects of the particular psychedelic substance must be disclosed. This requirement should apply for adolescents and young adults as old as 25, who are in the later stages of brain development.

Secondly, adolescent autonomy and privacy are of critical importance. Adolescents, even those deemed capable decisionmakers, often navigate healthcare provider-patient conversations with parents present. Young people, particularly those from racialized and marginalized communities, are often stigmatized for their mental health issues and substance use. Many family and community members and medical practitioners stigmatize and demonize the use of drugs by young people, particularly psychedelic hallucinogens, even if used for the express purpose of healing. Social stigma, racism and racial trauma can have effects on the psychedelic experience itself and interactions with therapists (41). The informed consent process for psychedelic research should take into account principles of family-centred care and ensure that issues such as stigma around psychedelic substances are addressed with patients and families. Practitioners should include detailed information about capacity and confidentiality rights that are relevant to the adolescent patient, and place an emphasis on conveying nonjudgement and understanding regarding the choice of young people to participate in psychedelic research.

With these key additions to the enhanced informed consent process in adolescent research contexts, capable adolescent patients should be ethically justified in making an informed decision about proceeding with psychedelic-assisted therapy.

CONCLUSION

Emerging psychedelic therapies have shown significant promise in adult mental health care, and represent potentially effective treatments for adolescents, who are experiencing mental disorders at increasing rates and levels of severity. Yet adolescents have been completely absent from this emerging research. I have defended the position that adolescent patients deserve to be included in research into psychedelic therapies. I have shown how novel interventions are needed, and that the status quo of adolescent mental health care falls short in addressing the growing mental health burden on youth – research into psychedelic therapies presents a critical opportunity to substantiate innovative and effective interventions. I have further demonstrated the low risk associated with these substances, particularly compared to existing psychiatric drugs, and addressed various objections related to psychedelic use in the specific context of adolescent health. With some additions to the enhanced informed consent process, capable adolescents can reasonably consent to research into psychedelic-assisted interventions that have the potential to vastly improve clinical outcomes, reduce suffering and improve long-term mental health and quality of life.

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Les recommandations des évaluateurs externes sont prises en considération de façon sérieuse par les éditeurs et les auteurs dans la préparation des manuscrits pour publication. Toutefois, être nommé comme évaluateurs n'indique pas nécessairement l'approbation de ce manuscrit. Les éditeurs de la *Revue canadienne de bioéthique* assument la responsabilité entière de l'acceptation finale et de la publication d'un article.

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