Brazilian Journal of Psychiatry
bjp
Revista Brasileira de Psiquiatria

Braz J Psychiatry. 2021 Jul-Aug;43(4):349-350
doi:10.1590/1516-4446-2020-1151
Brazilian Psychiatric Association

EDITORIAL

Limitations of DSM-5 diagnostic criteria for substance use disorder in adolescents: what have we learned after using these criteria for several years?

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Risk behavior is defined as the search for rewards despite the possibility of danger or harm. Studies show that adolescents engage in potentially harmful or dangerous behaviors in order to obtain new sensations and rewards that are increasingly salient.[1,2]

Adolescence is a period of natural exposure to risky behaviors, such as substance use.[3] It is known that, the earlier the diagnostic evaluation and intervention for substance use are carried out, the better the chances of interrupting consumption. A structured assessment of drug use may include the use of DSM-5 criteria.[4]

In the latest edition of the DSM-5, the abuse and dependence categories were merged into a single one (substance use disorder) and classified according to the presence of 11 criteria, with the co-occurrence of two or more of 11 symptoms within 1 year characterizing mild dependence (2 to 3 symptoms), moderate dependence (4 to 5 symptoms), or severe dependence (6 or more symptoms).[4]

Other changes include suppression of the legal involvement criterion and the addition of craving and abstinence criteria.[4] However, we question the adequacy of DSM-5 criteria when applied to adolescents, due to conceptual and pragmatic limitations that must be considered for this population. Studies have shown that this new categorization of criteria is not accurate when applied to adolescents, as they may either neglect the detection of those who make harmful use or overdiagnose mild cases.[5]

Criteria 1 and 9 refer to behavioral patterns, which include little control over use, with adverse consequences over a period and a recurring pattern of problematic use. Criteria 10 and 11 represent the pharmacological phenomena of tolerance and dependence.[4] Below, we discuss the application of these criteria to adolescents.

Taking the substance in larger amounts or for longer than you're meant to / Craving to use the substance

Although important and significant for the diagnosis of addiction, these are low-prevalence criteria in adolescents. who usually believe they have control over their use of substances. Besides, these are conditions that imply neuropsychological processes and should be considered with caution in adolescence. Aspects such as the ability to program and plan, the presence of intensity (emotions and behaviors), and the lack of inhibitory control are processes inherent to brain maturation during adolescence.[1] Moreover, the craving criterion is imprecise, especially when applied to adolescents, as it is not possible to identify whether craving is related to impulses and the search for new sensations (and reward) or if such phenomena are more linked to abstinence (little prevalent in adolescence).

Wanting to cut down or stop using the substance but not managing to

Adolescents, in general, have a strong perception of (self-) control over use. In addition, many adolescents do not wish to stop or reduce their use and think they can stop whenever they want.[3]

Spending a lot of time getting, using, or recovering from use of the substance

This criterion may be imprecise when applied to adolescents, since many activities during this period of the life course revolve around the same group of friends, and if one's friends use a substance, then these behaviors are reinforced and maintained precisely through the need to increase sociability and the sense of belonging.

Continuing to use, even when it causes problems in relationships / Giving up important social, occupational, or recreational activities because of substance use

In adolescents, drug use can occasionally represent a form of self-medication for problems with school, family, or a posture of confrontation and questioning limits, as well as a desire for autonomy. Furthermore, adolescence is characterized by elevated neural responses to hedonic stimuli and behavioral bias towards an immediate reward,

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Submitted May 20 2020, accepted Jul 31 2020, Epub Oct 09 2020.

How to cite this article: De Micheli D, Andrade ALM, Galduróz JC. Limitations of DSM-5 diagnostic criteria for substance use disorder in adolescents: what have we learned after using these criteria for several years? Braz J Psychiatry. 2021;43:349-350. http://dx.doi.org/10.1590/1516-4446-2020-1151

which may cause diverse activities to be neglected at the expense of the more reinforcing ones, such as substance use.[3]

Using substances again and again, even when it puts you in danger

The presence of risk is not a factor that restricts the use of substances among adolescents; in many cases, it can actually motivate the search for more intense sensations. Therefore, this criterion may not reflect a hazardous usage pattern. In this manner, while the areas of the limbic system associated with primary impulses and desires are fully functioning, those that control primary motivations are still in formation. Thus, the search for immediate pleasure surpasses any other context or situation.[3]

Tolerance

In adolescence, substance use can go from experimentation to regular use very quickly. In addition, particularities in neurodevelopment may contribute to high variability in reinforcing the effects of drugs in this population. Therefore, the identification of tolerance symptoms can be quite inaccurate among adolescents. Moreover, this criterion does not consider the pattern of use, and in adolescence, the desire is exactly to obtain a "more pronounced effect" of the drug. In this line, the adolescent may wish to increase use not because of tolerance, but to obtain a more intense effect and rapid onset of action.[1]

Withdrawal

This symptom only appears after years of use. Therefore, this criterion has little applicability in adolescents.[2,3]

Finally, adolescence is a stage of development that involves significant physical, cognitive, emotional, social, and behavioral changes. Cognitive characteristics include greater sensitivity to reward, sensation-seeking, impulsive action, and low self-control to inhibit emotions and behaviors.[2] In addition, adolescence is characterized by elevated neural responses to rewarding stimuli and behavioral bias toward immediate rewards. Neurobiological findings on decision-making and risk behaviors in adolescents indicate that an imbalance in development between slowly maturing regulatory processes (in particular, inhibition) involving the anterior cingulate cortex, as well as motivational-reward processes including the ventral striatum and tonsils, underlie weakened decision-making in adolescence.[1,3]

In summary, application of the DSM-5 criteria in adolescents can be quite inaccurate by under-identifying cases of possible harmful use.

Despite the changes incorporated into the DSM-5, there is still a need to improve accuracy of the diagnosis of substance use disorder in adolescents. Symptom definitions need to be clearer and more consistent with the neurodevelopment process and the social aspects that permeate adolescence, which will require further refinement of operational definitions.[6]

Acknowledgements

This study was supported by Associação Fundo de Incentivo à Pesquisa (AFIP).

Disclosure

The authors report no conflicts of interest.

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