Study: High-school students with neurodevelopmental disorders experience worse premenstrual syndrome symptoms

January 10 2024

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Premenstrual syndrome (PMS) is a relatively common condition that affects most women who menstruate, at some point in their lives.

Typically, PMS can cause a variety of symptoms, including mood swings, irritability, bloating, and fatigue. Moreover, PMS tends to worsen the symptoms of certain psychiatric and personality disorders. In certain instances, PMS can lead to premenstrual dysphoric disorder (PMDD), a type of severe depressive disorder that impairs daily life activities and interpersonal relationships.

According to several studies, women with intellectual or developmental disabilities, such as autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD), are more likely to have menstrual abnormalities, PMS symptoms, and PMDD. It is possible that female adolescents with developmental disabilities are at a higher risk of experiencing exacerbated mood disturbances, and that these may impact their adjustment in high school. Unfortunately, there have been no studies demonstrating associations between these concepts among female high-school students with sub-threshold neurodevelopmental disabilities.

Against this backdrop, Associate Professor Takuya Miura of Tokyo University of Agriculture and Technology and Professor Soichi Hashimoto from Tokyo Gakugei University, Japan, conducted a study to address this knowledge gap. Their findings are published in the *Journal of Developmental Disabilities Research*.

The researchers performed a questionnaire-based survey that involved 500 high-school and first/second-year college students in Japan. The survey contained seven items related to sub-threshold neurodevelopmental disability traits, 12 items related to PMDD symptoms, and two items related to school adjustment. The accuracy of the scales used in the questionnaire was validated by resorting to item response theory, which ensures that the survey items effectively measure the traits and symptoms under investigation.

The researchers found that female high-school students with traits of sub-

threshold neurodevelopmental disabilities tended to be more uncomfortable before menstruation compared to female college students or female high-school students with typical development. Moreover, they found interesting differences between female students exhibiting ASD traits and ADHD traits.

Associate Prof. Miura remarks, "Female high-school students with sub-threshold ASD traits were more likely to have depressed or hopeless moods and higher levels of anxiety and tension." The results also indicated that female high-school students with sub-threshold ASD traits faced difficulties with school life and study performance, whereas PMDD interfered with relationship building at school more in those with ADHD traits.

Taken together, the findings of this study shed light on the additional challenges that female high-school students with sub-threshold neurodevelopmental traits face before menstruation. These insights should be considered by school management and teachers alike to develop strategies that can help these students adjust better and have improved mental health.

In this regard, Miura comments, "The results suggest that there is an urgent need to develop classroom-based support techniques that allow for good communication between female high-school students with sub-threshold neurodevelopmental disabilities traits and their peers."

Hopefully, this work will help develop systems where reproductive health education is paramount and the difficulties caused by developmental characteristics are considered. Such systems may help affected high-school females adjust better, making their experiences at school more enjoyable and productive.

More information: Takuya Miura et al, Effects of Sub-Threshold

Medical Xpress

Neurodevelopmental Traits on the Adjustment of Female Students to High School: A Study Focused on Premenstrual Dysphoric Mood, (2023)

Provided by Tokyo University of Agriculture and Technology

Citation: Study: High-school students with neurodevelopmental disorders experience worse premenstrual syndrome symptoms (2024, January 10) retrieved 13 May 2024 from https://medicalxpress.com/news/2024-01-high-school-students-neurodevelopmental-disorders.html

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