Medical Xpress

Drinking alcohol during puberty is associated with future psychological disorders

October 5 2016

Alcohol consumption onset at the beginning of puberty is associated with an incresed risk of psychological disorders in the future. Credit: Fran López UPDG.

Alcohol consumption onset between 11 and 13 years old is associated with an increased risk of psychological disorders in the future, according

to a study conducted by the Complutense University of Madrid. The most common symptoms of more than 3,000 adolescents who participated in the research were bodily discomfort, hostility and aggression.

A study with 3,696 18-year-old university students conducted by scientists at the Complutense University of Madrid and the University of Santiago de Compostela and founded by the National Drug Plan (Spain) reveals that drinking alcohol at an early age is associated with an increase of psychopathological symptoms, i.e. certain possibility of suffering from a psychological disorder in the future.

"The presence of these signs does not necessarily mean the existence of clinical disorders, but it can be interpreted as a susceptibility to suffer them," said Luis Miguel García Moreno, researcher at the Department of Psychobiology at the University Complutense of Madrid (UCM) and co-author of the study published in *Psicothema*.

Scientists took into account nine psychopathological domains: anxiety, depression, obsession-compulsion, phobia, hostility, paranoid ideation, interpersonal sensitivity, psychoticism and somatization.

The participants, which did not include any teetotalers, had to fill out anonymous questionnaires asking about the frequency of alcohol consumption, age of onset and questions determining the existence of any of the nine symptoms selected.

The study reveals that drinking between 11 and 13 increases the risk of experiencing symptoms of discomfort compared to those whose consumption onset was at 16. The most common symptom recorded by those adolescents was somatization that involves experiencing feelings of bodily discomfort, especially with muscle aches, respiratory and gastrointestinal disorders.

Other common symptoms were hostility and aggression, leading to a greater propensity to expressing ideas or violent behavior toward others or themselves.

Gender differences

Regarding gender differences, "women showed signs of anxiety and depression, while men showed a certain degree of psychoticism," said García Moreno. Overall, women recorded higher values of indicators which, according to the psychologist, may point out a greater vulnerability of adolescent women to alcohol effects.

The authors indicate that a cause-effect relationship between alcohol consumption and the symptoms found cannot be established because of the cross-sectional nature of the study. "We can only be sure that there is a relationship and we cannot say what happens first: if the consumption produces these symptoms or if certain symptoms predispose to alcohol consumption," said García Moreno.

At present, the research team is working on more personalized ways of preventing alcohol intake, depending on the personal characteristics of each adolescent. To do this, they are trying to figure out what drives them to alcohol binge drinking.

Brain damage after two years of consumption

Members of the team, along with researchers of the Center of Biomedical Technology (CTB, Madrid) and the University of Minho (Portugal), participated in another study published this year in *Scientific Reports*. They found that there are functional brain alterations in those binge drinkers who persisted drinking after a two-year follow-up period.

These scientists, who proved last year that occasional binge drinking episodes alter the brain circuitry of adolescents, have gone a step further. They analyzed, by means of magnetoencephalograh (MEG), how functional connectivity has evolved in adolescents who persisted drinking for at least two years. To this end, they evaluated 39 students: Twenty-two nonusers and 17 binge drinkers.

"In a previous study, we found a different functional brain connectivity pattern in those adolescents who had a history of binge drinking. In the recent study, we found that these differences increased over the two-year follow-up period in those participants who persisted with this consumption pattern," said García Moreno.

The circuits involved were located within the so-called default mode network (DMN), composed of active brain regions during a resting state. The precuneus, the anterior and posterior cingulate, medial prefrontal cortex and the inferior parietal cortex are part of this brain network that showed abnormalities in those binge drinkers whose consumption pattern held for at least two years.

More information: Carina Carbia, Montserrat Corral, Luis Miguel García-Moreno, Fernando Cadaveira y Francisco Caamaño-Isorna. "Early alcohol use and psychopathological symptoms in university students". *Psicothema* 28 (3), 2016. DOI: 10.7334/psicothema2015.251

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