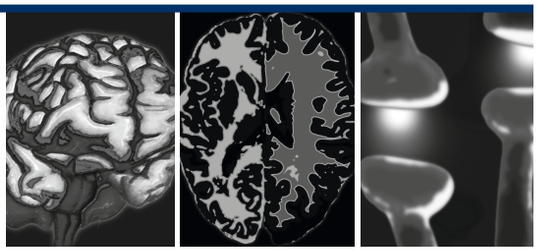
"...the study ... did not demonstrate that depression treatment had any impact on the later development of alcohol-use disorders, a finding that could not be directly explained by the authors..."



Treatment for adolescent depression impacts on later-onset substance abuse, study says

A recently published study, following adolescents with depression, has indicated that treatment of depression during adolescence could reduce the chance of developing a substance-abuse disorder later in life. Markedly, the study, which was conducted by researchers at Duke University Medical Center (NC, USA), did not demonstrate that depression treatment had any impact on the later development of alcohol-use disorders, a finding that could not be directly explained by the authors, although the prevalence of alcohol use in the 17–23-year-old age bracket was raised as a potential key factor.

"...there's a need for a lot of prevention and education for college students to avoid getting into heavy drinking and then the beginnings of an alcohol disorder..."

The 5-year study, which followed 192 adolescents (56.2% female; 20.8% minority) who had previously participated in the Treatment for Adolescents with Depression Study (TADS; 2000–2003), aimed to test whether those patients who responded positively to short-term treatment for adolescent major depressive disorder (MDD) would receive a secondary benefit of lower chance of subsequent alcohol- or substance-use disorders (AUD and SUD, respectively).

The 192 adolescents in the study were aged 17–23 years at the end of the 5 years and had no prior diagnoses of AUD or SUD and had previously undergone either cognitive behavior therapy, fluoxetine, treatment combination of cognitive behavior therapy and fluoxetine alone, or clinical management with pill placebo as part of the depression treatment during TADS. The researchers, led by John Curry at Duke University Medical Center, used the original TADS treatment-response rating as well as a more restrictive symptom count rating to assess participants. Diagnostic interviews were carried out as a follow-up at 6- or 12-month intervals to assess onset of AUD or SUD, in addition to assessing MDD recovery and recurrence.

At the end of their study, the researchers found that participants who achieved a short-term positive response to MDD treatment demonstrated a lower rate of subsequent SUD, regardless of the measure of positive response or the nature of the initial MDD treatment. "It turned out that whatever they responded to – cognitive behavioral therapy, Prozac, both treatments or a placebo – if they did respond within 12 weeks they were less likely to develop a drug-use disorder," explains lead author Curry. However, short-term positive response was unrelated to subsequent AUD, a finding that surprised the researchers; Curry postulates that the prevalence of alcohol use among people aged 17–23 years could be a key factor. "It does point out that alcohol-use disorders are very prevalent during that particular age period and there's a need for a lot of prevention and education for college students to avoid getting into heavy drinking and then the beginnings of an alcohol disorder," he says, continuing. "I think that is definitely a take-home message."

The study also demonstrated that greater involvement with alcohol or drugs prior to depression treatment predicted later AUD

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or SUD, as did older age (for AUD) and more comorbid disorders (for SUD). In addition, the study found that for those patients with recurrent MDD and AUD, the recurrent AUD almost always preceded the MDD.

The scientists conclude their study summarizing that effective short-term adolescent depression treatment significantly reduces the rate of subsequent SUD but not AUD and they recommend that alcohol and drug use should be assessed prior to adolescent MDD treatment, as well as being monitored post-MDD recovery. In terms of further work, the team believe further, larger studies are required, as the number of participants who developed drug or alcohol disorders in the current study was relatively small, in addition to the fact that no comparison group of nondepressed patients was included in the study. This means that the researchers could not be sure that their conclusions of the rates of subsequent drug- and alcohol-abuse disorders observed in participants were higher than those present in adolescents not treated for depression.

– Written by Laura Harvey

Source: Curry J, Silva S, Rohde P *et al.* Onset of alcohol or substance use disorders following treatment for adolescent depression. *J. Consult. Clin. Psychol.* 80(2), 299–312 (2012)

Network of brain structures studied to throw light on post-stroke depression

Recent research highlights the link between impairments in the brain network and the severity of post-stroke depression

Research recently published in *Radiology* has demonstrated a link between impairments in a network of the brain – the default-mode network (DMN) – and the severity of depression suffered post-stroke. Lead researcher, Igor Sibon (University of Bordeaux, Bordeaux, France), explains "A third of patients surviving a stroke experience post-stroke depression," he continues, highlighting the current difficulties in explaining the relationship "Studies have failed to identify a link between lesions in the brain caused by ischemia during a stroke and subsequent depression."

> "We found a strong association between early resting-state network modifications and the risk of post-stroke mood disorders."

The study, rather than aiming to identify dysfunction in specific brain areas, was designed to assess a functional network of brain structures, collectively named the DMN. The DMN is "activated when the brain is at rest" and is related to internally generated thought processes; changes to the DMN connectivity have been observed in depressed subjects.

Twenty four patients (19 men and 5 women) aged between 18 and 80 years, who had recently suffered a mild-to-moderate ischemic stroke, underwent resting-state functional MRI (fMRI) 10 days after the stroke event. The fMRI imaging study – typically used in research to measure metabolic changes in specific brain areas while patients perform a designated task – were used in this case to study the patients in the resting state, while they lay motionless. Following this, all participants were evaluated 10 days and 3 months post-stroke to determine and assess the presence and severity of depression and anxiety symptoms. At the 3-month post-stroke stage, the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) diagnostic classification system was used to evaluate patients for depression. Ten patients had mild-to-moderate depression, and 14 patients had no depression when assessed using the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) criteria.

The results of the fMRI exams demonstrated an association between depression severity at the 3-month post-stroke stage and modifications of connectivity in the DMN 10 days after stroke, as observed with the fMRI. Sibon comments "We found a strong association between early resting-state network modifications and the risk of post-stroke mood disorders." He continues "These results support the theory that functional brain impairment following a stroke may be more critical than structural lesions."

Sibon postulates that the widespread chemical changes resulting from a stroke could potentially lead to modification of the connectivity in brain networks, such as the DMN. He continues, highlighting how the study results could contribute towards the clinical management of stroke patients through providing the opportunity to see the effects of different treatment options on those patients whose post-stroke fMRI results indicate modifications to DMN connectivity.

– Written by Laura Harvey

Source: Post-stroke depression linked to functional brain impairment: www.sciencedaily.com/releases/2012/06/120605075533.htm

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