Human Behavior Associates

Treating People Right

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More Risks for Alcoholics

The effects of alcohol abuse on cognition and learning have been well documented. Now, a new study finds that among alcoholics, the ability to perceive dangerous situation is so compromised. Researchers used functional magnetic imaging (fMRI) to examine the emotional processing ability of alcoholics with the results published in the September issue of *Alcoholism: Clinical & Experimental Research*.

"We knew that alcoholics show a deficit in accurate recognition of facial emotions," said Jasmin B. Salloum, research scientist at the National Institute on Alcohol Abuse and Alcoholism and corresponding author for the study. This can lead to insensitivity to, and overestimation and/or misattribution of, certain facial expressions." "Relatives and friends of alcoholics often wonder why they continue to drink even though they intellectually know how detrimental this is for them," added Andreas Heinz, director and chair of the department of psychiatry at Charité – University Medical Center Berlin.

Patients often relapse when entering previous drinking situations, that is, entering a bar or a shop in which you can buy alcoholic drinks. One reason may be that they fail to perceive dangerous situations. This study suggests that there is a neurobiological correlate of this often-reduced ability to perceive dangerous situations."

Study participants comprised 11 male subjects who met DSM-IV criteria for alcohol dependence, as well as 11 healthy male subjects or "controls." All participants were given a facial-emotion decoding task during which they were asked to determine the intensity level of a target emotion displayed via facial expressions of happy, sad, anger, disgust and fear.

Researchers used fMRI to examine the subjects' brain-blood oxygenation level dependent (BOLD) responses (a BOLD signal will increase when that part of the brain is engaged in active processing of information). Results showed that the greatest deficit among the alcohol-dependent individuals was in brain activation during decoding of negative emotional expressions, particularly in the affective division of the anterior cingulate cortex. The anterior cingulate is part of the prefrontal brain area.

"The cingulate is involved in many higher order executive functions such as focused attention, conflict resolution and decision making," said Salloum. Alcoholic patients are known to be sensation seekers and are less likely to shy away from signals that suggest danger. Both sensation seeking and avoidance of danger are characteristic of subjects with axes II personality disorders, which many of our subjects had.

The findings in this study may shed some light on some of the problematic and psychopathological behaviors that are manifest in this patient group. There is, however, a silver lining, added Heinz. "Now we can begin to understand why patients have problems avoiding dangerous situations and, particularly, why they may not react to the concerns of their friends and relatives: the brain area that should help them appreciate these concerns is functioning at a reduced level.

"Furthermore, the authors also observed a normal or even increased brain response to happy faces. Our group recently made a similar observation, in that patients with strong brain responses to pleasant pictures have a reduced relapse risk. "So, relatives and friends may want to support alcoholic patients with positive messages that strengthen their self-esteem while being particularly careful, and even repetitive, in pointing out the dangers of alcohol and alcohol-associated environments. Otherwise, the patients may miss the message."

From-psychcentral.com

Vaccines for Drug Addiction

Pursuant to a series of new studies, a pair of new vaccines designed to combat cocaine and methamphetamine dependencies not only relieve addiction but also minimize withdrawal symptoms. Researchers from Baylor College of Medicine (BCM) report the vaccines stimulate the body to produce antibodies which then attack the drug while it is in the blood stream. This prevents the drug from reaching the brain and creating the reactions that contribute to dependency.

"These are therapeutic, not preventative, vaccines," said lead investigator Dr. Thomas Kosten, Jay H. Waggoner Professor of Psychiatry & Behavioral Sciences at the Menninger Department of Psychiatry at BCM and research director of the Veteran Affairs national Substance Use Disorders Quality Enhancement Research Initiative.

"They are meant for those who are already suffering from drug addiction."Kosten stresses that while the vaccines have been shown to help overcome drug addictions, they do not necessarily curb relapse. "This is not a stand-alone treatment," Kosten said. There is a reason drugs were used in the first place, and that needs to be dealt with either through counseling or behavioral therapies.

TA-CD, the cocaine vaccine, works through a series of injections over a three-month period. Study participants began to respond favorably to the vaccine after about a month. TA-CD has one more large scale human study scheduled before it is ready for the FDA approval process

"The vaccine slowly decreases the amount of cocaine that reaches the brain," Kosten said. "It's a slow process, and patients do not go through any significant withdrawal symptoms." Antibody production was sustained for another nine months following the vaccine treatment. Additional injections were subsequently administered every four to eight weeks, if needed at all.

The methamphetamine vaccine, still in early stages of development, has produced similar results as TA-CD. While both vaccines spur anitibody production, each has a unique protein composition that help the body target the different drugs.

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Road Safety is Important. Be Aware

Back to School: Safety Tips

The start of the school year means more children are walking and more teens driving every morning and afternoon. Law enforcement and AAA officials say it's a crucial time for drivers to review road safety.

Parents of students who walk to school should have them:

Take the most direct and safest route. If a shorter route is not safe, parents should explain to their children why the longer way is better.

Select the route with the fewest street crossings.

Use pedestrian tunnels or overpasses to avoid hazardous traffic.

Pick intersections guarded by an adult crossing guard or school safety patroller.

Avoid complicated intersections.

When available, use intersections where children are likely to cross with a group.

Look for intersections with a separate pedestrian "WALK/DON'T WALK" indicator signal.

Stick to routes with sidewalks, and pathways.

Avoid streets where the view is blocked to oncoming traffic. Chose a route with a parent and walk it together.

Walk on the left side of the road, facing oncoming traffic in areas where there are no sidewalks.

Be especially alert in bad weather, when visibility is reduced, drivers can't stop quickly and cars may skid. Be visible at night. If the child is out after dark, he or she should carry a flashlight and wear white or bright-colored clothes. It's also a good idea to use reflective strips on jackets, coats, hats and backpacks.

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