Guiding People With Alcohol Use Disorder to the Right Help

In any given year, fewer than 10% of people diagnosed with alcohol use disorder receive treatment, and many do not receive the type of care that best fits their needs. One reason for that may be that they don’t know where to turn for help, or they may not know that they have more treatment options beyond a mutual help group or long-term residential rehabilitation facility.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has developed a new online tool that may help. The “comprehensive, yet easy-to-use” Alcohol Treatment Navigator was developed “to help address the alcohol ‘treatment gap,’” said NIAAA Director George Koob, PhD. It’s based on decades of scientific research into clinical interventions and health services, with input from patients, providers, and researchers. The Navigator includes an overview of alcohol use disorder and a description of professionally led treatment options. It also gives step-by-step instructions for searching online directories of treatment providers, 10 questions to ask a provider, and signs of quality to listen for. A downloadable toolkit helps organize and simplify the search process. The Navigator is available at: https://alcoholtreatment.niaaa.nih.gov.

Source: NIAAA, October 2017

“Untangling” DNA Damage

“Imagine your DNA is a giant ball of yarn,” says Matthew Schellenberg, PhD. That’s the metaphor he uses to help describe the findings of a study he conducted with other researchers from the National Institutes of Health (NIH). They discovered how two proteins work together to “untangle” DNA damage known as a DNA-protein crosslink (DPC).

When the DNA becomes tangled inside of cells, organisms use another protein called topoisomerase 2 (TOP2) to straighten things out by cutting and “retying” individual threads. To do that, it first conceals the cut DNA ends within the core of the TOP2 protein, which allows it to then retie, or rejoin, the DNA ends. But cancer drugs or environmental chemicals can sometimes block the retying ability, so the TOP2 remains stuck. That creates a stable environment for TOP2 and DPC, leading to an accumulation of severed DNA that kills cells.

Scott Williams, PhD, Deputy Chief of the Genome Integrity and Structural Biology Laboratory at the National Institute of Environmental Health Sciences, headed the team that identified a protein called ZATT as a new contributor to the process of removing DPCs. He uses another metaphor, likening the TOP2-DPCs to “ticking time bombs for cells.” The molecular charges are armed, he says, by TOP2’s interaction with environmental toxicants, chemical metabolites, tobacco exposures, or DNA damage caused by ultraviolet light.

While cancer drugs induce formation of TOP2-DPCs to treat cancer, TOP2-DPC lesions can also cause rearrangement of an organism’s genome that leads to cancer. If they aren’t removed, they trigger cell death. That led Dr. Williams and the research team to find out how DPCs are located and broken down. In his metaphor, ZATT “is like a bomb-sniffing dog.” When it locates the target, it sounds an alarm to mobilize the recruitment of TOP2, which “cuts the red wire to disarm these threats.”

Dr. Schellenberg says, “We’ve discovered how we defend against this potent means of killing.” The knowledge may help researchers make drugs that kill cancer cells more effective.

Source: NIH, October 2017

Rural Communities Have High Rates of Suicide

More than half a million people committed suicide between 2001 and 2015, according to the Centers for Disease Control and Prevention (CDC). Rural counties consistently had higher rates than metropolitan areas. “While we’ve seen many causes of death come down in recent years, suicide rates have increased more than 20% from 2001 to 2015,” said CDC Director Brenda Fitzgerald, MD. “And this is especially concerning in rural areas.”

Suicide rates in rural counties were 17.32 per 100,000 people, compared with 14.86 in small-to-medium metropolitan counties and 11.92 in large metropolitan counties. Rates for American Indian/Alaska Native non-Hispanics were the highest.

The researchers note that, at different points, different negative factors had more impact. For instance, rural communities were harder hit by housing foreclosures, poverty, and unemployment due to the recession. However, the researchers also point out that suicide rates were on the rise before the recession began.

“The trends in suicide rates … are magnified in rural areas,” said James Mercy, PhD, director of CDC’s Division of Violence Prevention. “This report underscores the need for suicide prevention strategies that are specifically tailored for these communities.” To that end, the CDC recently released a compilation of evidence-based strategies that have the greatest prevention potential. The set includes examples of programs that can be customized to fit the cultural needs of different groups. In North Dakota, for instance, a program called Sources of Strength was developed for tribal communities to promote connectedness between youth and adults.

The Health Resources and Services Administration has also developed activities to address suicide in rural areas, including epidemiologic studies, research, telemedicine, and programs addressing primary health care providers.

Source: CDC, October 2017

The Return of Scarlet Fever?

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Hong Kong, in fact, has seen a more than 10-fold increase over the previous incidence rate. In a study of 7,266 patients 14 years of age or younger (3,504 with a laboratory-confirmed diagnosis), researchers from the University of Hong Kong found a “sharp peak” in 2011: 1,438 cases were reported, exceeding the total number of 1,117 in the previous six years. Since then, the annual number of reported cases has remained at a “relatively high level,” the researchers say, with an average of 14.5 cases per 10,000 children during 2012–2015.

The elevated pattern was more apparent in children 5 years of age and younger. In that age group, annual incidence averaged 3.3 per 10,000 during 2005–2010, then jumped dramatically to 23.9 per 10,000 in 2011. It dropped slightly to 18.1 per 10,000 in 2012–2015.

The cause is unclear, the researchers say. They cite one report that suggests toxin acquisition and multidrug resistance may have contributed to it. School is probably a major transmission site. Incidence was higher among younger children entering school and during school days. The researchers say boys were more at risk than girls, possibly because they have more physical interactions or poorer personal hygiene. Thus, school-based control measures—especially for boys ages 3 to 5 years—could be “particularly important.”

Source: Emerging Infectious Diseases, October 2017

Some Pulmonary Embolism Patients May Benefit From Shorter Length of Stay

Discharging patients with low-risk pulmonary embolism (PE) sooner not only saves money, but it could be saving their lives, according to a study of 6,746 patients with PE who stayed in Veterans Health Administration facilities.

Of the patients, 1,918 were low risk, and of those, 688 had a short length of stay (LOS) of two days or fewer. While the incidence of adverse PE events (i.e., recurrent venous thromboembolism, major bleeding, and death) was similar, patients with short LOS had fewer hospital-acquired complications (1.5% versus 13.3%) and bacterial pneumonias (5.9% versus 11.7%) compared with those who stayed longer. Patients in the long LOS cohort had a higher number of pharmacy visits per patient (12.2 versus 9.4) and more surgeries for placement of an inferior vena cava filter (4.8% versus 0.8%).

The researchers note that PE is associated with a “substantial burden” of health care utilization and associated costs. The annual cost per patient for an initial episode of PE ranges from $13,000 to $31,000; with recurrent episodes, the cost can be $11,014 to $14,722 per year. In this study, inpatient costs for short LOS were half those of the longer costs ($2,164 versus $5,100). Total costs were $9,056 for short LOS versus $12,544 for long LOS.

But they also note that because patients with low-risk PE can be identified using validated risk stratification tools, an opportunity exists to select patients who can be safely treated without a traditional hospital admission. The researchers cite estimates that up to 50% of PE patients can be treated safely as outpatients. That’s a common practice in Europe, but U.S. physicians have been less willing to adopt the strategy, they add.

Reducing the LOS among low-risk PE patients may substantially reduce the disease’s clinical and economic burden. Therefore, risk stratification, the researchers conclude, is “of utmost importance.”

Source: PLoS ONE, October 2017

Obesity-Related Cancer Is on the Rise

Being overweight or obese is associated with increased risk of 13 types of cancer—and those cancers account for about 40% of all cancers diagnosed in 2014, according to the Centers for Disease Control and Prevention (CDC).

The 13 cancers are meningioma, adenocarcinoma of the esophagus, multiple myeloma, kidney, uterine, ovarian, thyroid, breast, liver, gallbladder, upper stomach, pancreas, and colorectal. About 630,000 people were diagnosed with one of those cancers in 2014; two in three cancers were in adults 50 to 74 years of age. In 2013–2014, about two of every three American adults were overweight or obese.

Overall, the rate of new cancer cases has been on the decline since the 1990s, the report says, but increases in overweight- and obesity-related cancers “are likely slowing this progress.” Obesity-related cancers (not including colorectal cancer, which declined by 23%) increased by 7% between 2005 and 2014, while the rates of non-obesity-related cancers declined 13%.

Health care providers can help, the CDC says, by counseling patients on a healthy weight and its role in cancer prevention, referring obese patients to intensive management programs, and connecting patients and their families to community services that give them easier access to healthy food. The National Comprehensive Cancer Control Program funds cancer coalitions across the U.S., which includes strategies to prevent and control overweight and obesity.

“When people ask me if there’s a cure for cancer, I say, ‘Yes, good health is the best prescription for preventing chronic diseases, including cancer,’” said Lisa Richardson, MD, Director of the CDC’s Division of Cancer Prevention and Control. That means, she says, giving people the information they need to make healthy choices where they live, work, learn, and play.

Source: CDC, October 2017

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