Cannabis in the Curriculum continued from page 2

THE WHITE COAT HIERARCHY OF PERCEIVED IMPORTANCE

ATTENDING

PHARMACOLOGY

ACADEMY

LAB TECH

MED STUDENT

LEAST IMPORTANT

MORE IMPORTANT

2014, leading Drug Warriors held an emergency meeting in Washington D.C., at which a representative of J&J’s Robert Wood Johnson Foundation promised financial support for whatever containment group the company devised.

GlaxoSmithKline paid off honchos from the University of Texas Southwestern Medical Center, NYU Langone Medical Center, and Texas Medical Center. Merck, and two exotics from Memorial Sloan-Kettering Cancer Center and one each from New York Presbyterian Hospital and Weill Cornell Medical College. Amaneg paid $281,000 to a University of Southern California administrator.

How fitting! How fitting that Temple University School of Medicine—where Tod Mikuriya got his MD—is in the forefront of adding cannabis to the curriculum. This is from a biographical sketch in our “Notes for a Biography” (O’Shaughnessy’s 2008): No mention was made of cannabis in Tod’s lectures at Temple, but an unsigned chapter on the subject in a pharmacology textbook (Goodman and Gilman, 2nd edition) caught his attention in March, 1959, triggering the interest that would define his career.

“I somehow got the message not to even discuss it with any of the professors,” Tod said, looking back. “It would not have been good for my career to become known as a person with an interest in marijuana.”

“He read everything on the subject available in the library and resolved to obtain and try cannabis himself—but not in north Philadelphia, where an arrest could get him thrown out of med school.”

Back to the future (compounding)

Cannabis has recently been added to the curriculum at the Massachusetts College of Pharmacy and Health Sciences (MCPHS). In May 2015, Drs. Matthew Metcalf and Evan Horton taught a two-credit-hour course at MCPHS titled “The Science of Cannabis.” As if we were teaching about any other drug, the pharmacists taught students to obtain a “peer-reviewed summaries” and “online CME material.”

Physicians with relevant experience should be invited by medical schools to train students directly as clinical faculty.

Drs. Deborah Malka and Stacey Kerr prepared a “Society of Clinical Immunologists” on CME online course that includes an exceptionally lucid introduction to The Endocannabinoid System by Dustin Sulak, co-founder of Sherbinski’s Medicine (for the print version.) The SCC intends to upgrade and update the 12 modules as the field advances.

The CEC and the SCC are reaching out to medical schools to train students directly as clinical faculty. Why are these institutions content to turn out doctors with no knowledge about how the brain works—not to mention the gut, the immune system, bone, and the rest of the body?

Of Possible Relevance:

According to the Journal of the American Medical Association, 16 (4) (94%) U.S. drug companies paid leaders of academic medical centers to sit on their boards of directors. The annual honorarium for one such speaker was more than $312,000 as of 2014. Johnson & Johnson was most generous, paying off the leaders of the David Geffen School of Medicine at University of California, Los Angeles (for the print version.)

The influential studies also have a seri- ous limitation: “Importantly, these studies were not designed to determine causality (i.e., that marijuana use causes morphological changes), which would require a randomized design to establish temporal precedence.”

Moreover, the conventional wisdom is based on studies that “did not adequately exclude the effects of confounding variables.” said Metcalf. “So the doctor can write a recommendation for a patient to take cannabis, then they have to go to the pharmacist who’s going to determine the strain based on cannabis profile, and the dosage and frequency of how the patient takes it for a specific medical condition.

“So it’s really kind of getting back to the future,” said Metcalf. “In the early 1930s and ’40s, with the pharmacist determining the specific of the drug you’re taking. The doctor writes a prescription for a certain drug, the pharmacist is going to look up in his Pharmacopoeia what to dis- pense, and they’re going to make a profes- sional determination about that specific pa- tient and how much they should be taking.”

Metcalf described the course as “meet- ing an unfilled need in healthcare educa- tion. The endocannabinoid system is the most prevalent receptor system in the brain and is not commonly taught in pharmacy or medical schools. It’s now time to make sure this promising and effective system is taught to our health professionals. If states are going to mandate by law that doctors can recommend cannabis and pharmacists dispense cannabis, it’s highly unlikely for us not to offer sound, professional educa- tion in how the cannabis system and drugs which target it affect the body.”

Several reports indicated marijuana groups that differed from control groups in alcohol use/abuse (Demirakca et al., 2011; Solowij et al., 2011; Schacht et al., 2012; Gilman et al., 2014). Unlike marijuana, alcohol abuse has been unequivocally as- sociated with deleterious effects on brain morphology and cognition in both adults (Sullivan, 2007; Harper, 2009) and adole- scents (Nagel et al., 2005; Medina et al., 2008; Sbeglia et al., 2012). Statistically controlling for comorbid alcohol abuse, as many studies do, is not an ideal strat- egy, especially in small groups or under conditions where covariates may interact with the independent variable (Miller and Chapman, 2001). Thus, it is possible that alcohol use, or other factors, may explain some of the contradictory findings to date.”

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Indigo Rose

If you have access to some soil and are planning a garden come spring in a place that generally receives enough rain or snow to consider “Indigo Rose” which Rosie’s catalog describes as “the darkest tomato bred so far, exceptionally high in anthocyanins.” Anthocyanins are flavonoids that contribute purple pigment to (eggs and cabbages), red to grapes, blue to blueberries. They are potent antioxidants.

The Indigo Rose tomatoes look like big cherries (which are also high in anthocyanins). “Developed by Jim Myers at Oregon State University using traditional plant breeding techniques…”

Some hip dispensary ought to buy a thousand seeds (price: $10.15) and give out packets to their growers. A few steps outside of the single-issue trap.

Brain Damage

The studies reporting brain damage have all been misread and misinterpreted by the media and accepted as Scientific Truth. For example, the New York Times ballyhooed Gilman’s findings in an October 29, 2014 article with the headline, “This Is Your Brain on Drugs.”

“The grey matter of the nucleus accumbens, the walnut-shaped pleasure center of the brain, was glowing like a flame…”

Times reporter Abigail Sullivan Moore visited Dr. Jodi Gilman at the Harvard Center for Addiction Medicine and paraphrased: “The gray matter of the nucleus accumbens, the walnut-shaped pleasure center of the brain, was glowing like a flame, showing marijuana use causing changes in the brain. And although structural changes would be worrisome, Mikurya said, it would still have to be shown that those changes result in adverse cognitive or behavioral changes. Weiland et al make the claim that smoking marijuana causes dense gray matter.”

“Also it is unclear how variations in the morphology of cortical or subcortical structures would be interpreted. For example, others have interpreted reductions in the volume of gray matter accumbens as evidence of the deleterious effects of alcohol (Makris et al., 2008), yet increases in accumbens volume associated with marijuana use were interpreted as deleterious (Weiland et al., 2014).”

Dr. Gruber, the director of McLean’s Brain Imaging Center, is a PhD, not a medical doctor. Here’s the script:

Gruber: “(as if awed): She’s using high tech imaging to see what happens in the brain when you smoke.

Gruber: “What we see is a very big difference in people who begin to smoke prior to the age of 16 and those who smoke after age 16. What we call ‘early’ versus ‘later onset.’

Gruber: Brain’s brain scans show that the white matter – those are the high waves that help the brain communicate from one point to another – are impaired in those who start smoking early.

Gruber: “Perhaps not surprising given what we know about the young developing brain.

Gruber: Preliminary research shows that early-onset smokers are slower at tasks, have lower IQs later in life, higher risk of strokes, and increased incidence of psychotic disorders. And while these studies are not conclusive, some scientists are still concerned because in 2012, 35 percent of high school seniors didn’t fit on the cutting room floor. We like having the bigger canvas and the opportunity to weigh in on breaking news.

About this issue

Our thanks to Paul Stanford — an old friend of Tod Mikuriya’s — and The Hemp and Cannabis Foundation for paying the printer, making it possible for us to maximize content. You can find our other backers — and material from our back issues — online at BeyondTHC.com. We’ve been using the site as a kind of paste-up board while putting together this account of our recent history. You’ll also find all our graphics in color and material that didn’t fit on the cutting room floor. We like having the bigger canvas and the opportunity to weigh in on breaking news.

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