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Magic Mushrooms and Their Medicinal Use by Lyons Blum

Our house sits on a brook that branches from the Wolf River. Like most kids around the neighborhood, my siblings and I were drawn to it almost every day. We would get up early and try to catch the morning bass as the tide dropped. However, I became drawn to another early-morning creature. As the dew settled on the grass and the forest came to life, large red polka-dotted mushrooms—called *amanita muscaria*, would peek their heads out from the ground. When I learned these mushrooms were psychoactive because of a chemical called muscimol, I decided I would eat one. So, I picked one up and took a big bite out of it. About thirty minutes later my stomach sank in my chest and the mushrooms came right back up. However, as I lie sleeping that night, my dreams took me to a different world, they were vivid and magical. I remember feeling different after that day, it was less of a spiritual awakening than it was an interest in the idea that fungi have the capability of creating powerful psychological effects on humans. One of the most interesting chemicals I investigated was psilocybin, produced by mushrooms of the genus *Psilocybe*, and how it has the potential to transform how a person sees themselves. This of course could be considered more spiritually awakening than muscimol, as it has proven to change someone's whole concept of life. Some recent studies have proven that psilocybin can aid in decreasing depression and even help patients break an addiction. However, psilocybin is currently illegal and listed as a substance with no potential for medical use. Psilocybin should be administered in a therapeutic medical setting because it has proven to be very effective at reducing depression and even helping people to stop smoking.

Though magic mushrooms have been popularized as a party drug used for recreational purposes, these mushrooms also possess a very important medicinal side. In the early 1960s, Dr. William Richards, a psychologist at Johns Hopkins University, began giving cancer patients psilocybin as he noticed it was reducing their depression and helping them cope with anxiety. Unfortunately, all research on the drug was halted due to the counterculture use of the drug during the 60s. The funding for research went dry. As Dr. Richards described, "We were learning so much, and then it all went to an end" (Jacobs). Imagine how depression could take over someone's life after

being diagnosed with a life-threatening illness like cancer. Though there are many feelings involved with the shock of this diagnosis, the greatest fear is no doubt the anxiety of death. Erinn Baldeschwiler, a 48-year-old mother of two given only two years to live, described her feeling as “if someone came up to you, put a gun to the back of your head, whispered, ‘I have a gun to your head and I’ll have a gun to your head for the rest of your life. I may pull the trigger, I may not.’” Baldeschwiler went on to say that she has been seeking psilocybin treatment to help deal with her depression and anxiety for a long time now. However, gaining legal access to psilocybin is still a significant obstacle as it is still classified as a schedule one drug. Baldeschwiler was not only fighting her own cancer, but was also fighting to spread awareness of the medicinal benefits of the drug (Aleccia). As seen in Baldeschwiler’s case, knowing she could drop dead any minute or not wake up tomorrow became a lifelong burden for her, but she is not alone in her fight to raise awareness for psilocybin. Scientists like Dr. Richards and Dr. Griffith at Johns Hopkins University have been researching the drug for the past few years, and their results continue to reveal that these drugs can be very beneficial for people with severe depression and anxiety.

Griffith and Richards acquired approval to conduct experiments to better understand the effects of the drug on depression and anxiety in the early 2000s. In 2016, they published a randomized double-blind study that they conducted on 51 cancer patients diagnosed with severely life-threatening cancers as well as depression and anxiety. The participants went through two sessions with a five-week interval between each session and were monitored by session monitors. About half of the patients were given a very small dose, which acted as the placebo group, and the other was given a very high dose. During each session, data were collected by the session monitors, and then once again after 6 months to see how the potential effects would last. The results showed that after the first session 92 percent of the high-dose patients showed a noticeable difference in their depression, whereas only 32 percent of the low-dose patients showed a response. After a six month period, 79 percent of high-dose participants continued to show a change in depression. Psilocybin’s effects on anxiety were similar after the first session, with the high-dose and low-dose patients exhibiting 76 and 24 percent, respectively. The overall decrease in depression and anxiety for the high-dose and low-dose group was 65 and 57 percent, respectively (Griffiths). These results show a substantial decrease in symptoms of depression and anxiety for cancer patients. This proves that not only can psilocybin be medicinally beneficial to people like Baldeschwiler and help them cope with the idea

of coming to the end of the road, but it can also help people with severe anxiety and depression.

In 2018, another study was published that observed four cancer patients with symptoms of depression while they underwent a psilocybin trip. One patient named Chrissy, a self-proclaimed atheist with stage four breast cancer, put the revelation she had into words. She described seeing a Ferris wheel during her trip and understood it to be a sign that “life comes from death and death comes from life.” During her experience, she also reported feeling a pain in her chest where her cancer was and described it as her “umbilical cord to the universe.” She went on to say, “this was where my life would be drained from me someday and I would surrender willingly when my time came.” Like the previous study, psilocybin had a noticeable reduction in depression and anxiety. Not only did Chrissy experience less depression and anxiety, but she was also more open to the idea of death. She reported that though she was ok with death she “chose to live” until her time came (Malone). Learning about Chrissy’s experience is extremely profound because it gives a personal feel for the type of experience these patients have during their journey. It seems almost like the drug psilocybin can act as a teacher of a sort to help people navigate the darkness of their lives. Making this drug legal for medical purposes may also help people’s physical health as it has been proven to be effective at reducing substance dependency on drugs like alcohol and nicotine.

In 2015, at the University of New Mexico, the effects of psilocybin on alcoholism were examined. Ten patients with mean alcohol dependence of 15.1 years were selected out of 70 individuals to take place in this study. The individuals were given twelve psychosocial intervention sessions to help motivate them to change. Amid these intervention sessions, they incorporated two psilocybin sessions. The sessions were lined up so that four intervention sessions occurred before the first psilocybin session, four before the second psilocybin session, and another four after the second session. Data were collected during these twelve weeks by asking the patients if they had a “heavy drinking day” or just a “drinking day.” Heavy drinking days were described as a day in which five or more drinks were consumed whereas drinking days were described as just one drink consumed (Bogenschutz). The results showed a drastic decline in drinking for most patients. More importantly, the biggest declines seemed to take place after the incorporated psilocybin sessions. A patient in this study named Jason described one of these sessions, saying:

I just thought yesterday was really good for identity, and it kind of secured how I've been feeling for some years, and it made it more stable. I'm still gonna have a lot of challenges; I don't think so much of drinking as much, because I know I have to be clear-minded a lot more. And, uh, those are things that just sidetrack me. So, it, believe it or not, you know, it benefited me. It was medicinal. It wasn't something recreational where I just stayed there laughing. So, you know, it helped. It did help. It's kinda... It's gonna help me, just, go forward and remember, you know... the insight that I got was— it was worth it. You know? It was really deep (Nielson).

The fact that Jason noticed a reduction in drinking says a lot for the psilocybin treatment alone. Based on this quote, it also seemed like the treatment allowed him to examine his own identity and perhaps see the flaws he couldn't see before. It's hard for a lot of people to realize how addiction has been affecting their lives because a lot of the time they don't notice it unless someone tells them. In Jason's case, it may have been his realization that drinking had been preventing him from thinking clearly or that drinking was making him "sidetracked" and preventing him from achieving his goals. This study shows that psilocybin has the potential to help millions of people who suffer from drug-related dependencies. Psilocybin could potentially even help society become more productive by ridding people of these issues. Not to mention, the health benefits of not drinking are undeniable. Another health potential for this drug is a reduction in smoking tobacco. Psilocybin's ability to detach someone from addiction has also been seen in cigarette smokers.

From a study conducted by Mathew W. Johnson at Johns Hopkins University, 15 patients were treated with psilocybin during cognitive behavioral therapy for smoking addiction. The patients received two to three psilocybin sessions throughout the study and their cessation was measured on the amount of cotinine (a component of nicotine) levels found in their urine. At a six-month follow-up, 12 reported no biological trace of nicotine in their system. This shows extraordinary decline in smoking whereas the best drug to treat nicotine addiction has only shown a cessation of 35 percent at a 6-month follow-up (Johnson). The fact that psilocybin is more effective than the leading drug administered for smoking shows that it has the potential to help millions break their addiction. It may even improve health all over the world, especially in European countries where smoking is more prevalent.

The drug psilocybin is categorized as a schedule one drug with no potential medical use, though a great deal of research on the chemical suggests otherwise. If psilocybin was legal and administered in a medical setting, it would open up many new doors for research and allow people to reap the benefits of happiness and even tackle addictions. Depression and substance abuse are two of the most abundant issues in the world right now and often co-exist. Psilocybin has been called a breakthrough drug by many drug administrations, and more and more people are becoming aware of its potential. Soon enough, there may be specialists in every country to help guide people through their psilocybin experience. The medical use of this drug could allow people all around the world to benefit from psychotherapy and overcome any obstacle in their way-- whether it be depression, anxiety, smoking, drinking, past childhood trauma or any of the many other mental health issues it has proven effective against.

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