
Psilocybin at the End of Life: A Doorway to Peace

Ed. Note: There has been an unexpected renaissance in the long-taboo field of psychedelic research, highlighted by an ongoing study at John Hopkins University which [recently concluded](#) that a single dose of psilocybin (still a Schedule 1 substance in the U.S.) brought about “a measureable personality change lasting at least a year... in the part of the personality known as openness, which includes traits related to imagination, aesthetics, feelings, abstract ideas, and general broad-mindedness.” The following article, the first in a series leading up to the [25th anniversary of MAPS](#) (the Multidisciplinary Association for Psychedelic Studies), discusses the laboratory use of psychedelics for treating end-of-life distress. It was transcribed and excerpted from a presentation made at the [10th Annual International Bioethics Forum](#) by Stephen Ross, MD, professor and clinician at the New York University School of Medicine.

Today I want to talk about a project of ours at NYU using psilocybin-assisted psychotherapy to treat end-of-life distress in people with cancer. I also want to talk about where Americans die—generally, I think we die in the wrong place in this country—and about the domains of palliative care and what that means. Additionally, I want to discuss spirituality and the phenomenology and prevalence of end-of-life distress and the link between spiritual states as potential buffers against end-of-life distress and psilocybin as a potential modality for increasing spiritual states in patients coping with such distress.

So, where do people want to die? Where do *you* want to die? In a hospital setting—let’s say the intensive care unit? In a nursing home? A hospice? How about at home with your family? That’s where most people want to die. Unfortunately, most Americans die in

the intensive care unit, and most die “bad” deaths, marked by needless suffering and disregard for patients’ and families’ wishes and values. In this country, we’ve farmed out the confrontation of death to the medical community in hospitals, and unfortunately we physicians do a very poor job of educating our profession in end-of-life distress. In medical school we are trained to fight death to the very end. I was never trained to help someone have a “good” death—that construct did not exist.

Palliative care is the active care of patients whose diseases are not responsive to curative treatment; it involves controlling the pain and other symptoms, as well as the psychological, social, and spiritual problems terminally ill patients experience. The goal of palliative care is to achieve the best quality of life for patients and their families.

A study by Sullivan, Lakoma, and Block in 2003 asked a sample of about 2,000 medical students, residents, and faculty members what they thought about end-of-life opportunities and related education. Half of the sample didn’t want to participate. Some weren’t willing to participate without payment, and others felt end-of-life care had no relevance to them. The majority felt end-of-life cases were not good teaching cases, and a lot of them didn’t think such cases were rewarding or part of a core competency. Between treating such patients and spending the last five years in the field of psycho-oncology, I find these responses odd. As a physician I can think of nothing more rewarding than helping somebody who is dying. I think it’s what physicians are supposed to do, but the majority of us have no education or interest in palliative care. Instead, we make patients’ cases about us, which is a huge disservice to them

Psilocybin at the End of Life: A Doorway to Peace

and something that has to change if we're going to serve our patients in the way that they need.

Spirituality and Religion

Spirituality is a broad-based, complicated term with many dimensions and both religious and nonreligious perspectives. The etymology of the word is rooted in that which invigorates life, the breath of life. Spirituality includes cognitive, experiential, and behavioral components. The cognitive component involves the search for meaning, purpose, and truth. The experiential-affective component is intrapsychic, having to do with feelings of hope, love, and inner peace; it is also relational, because we humans are driven to connect with others. We connect primarily within our families and more broadly within our communities, our environment and nature, as well as with transcendental forces. The behavioral component of our spirituality can be expressed in a variety of ways; for some, it is expressed in an organized religion, while others do so through altruistic, creative, or scientific pursuits. Einstein was Jewish but not religious, for example. He found spiritual connection in the scientific pursuit.

Spirituality is a broader construct than religion. You can be religious without being spiritual, which is called *extrinsic* religiosity. Extrinsic religiosity does not protect from end-of-life distress. You can go to church but have no connection to a transcendental force or God and no sense of meaning making. *Intrinsic* religiosity involves meaning making and connecting to transcendental forces. Again, a person can be spiritual without being religious, without believing in God. Researchers such as Dr. David Nichols, distinguished chair in pharmacology at Purdue University, and Dr. Franz Vollenweider, professor of psychiatry at the University of Zürich, have established that we have neural tissue and patterns of activation and deactivation that mediate spiritual experiences.

Various studies show us that the majority of patients and doctors believe in God. The sicker patients get, the more they want their physicians to talk to them about spirituality, meaning, and beliefs. The problem is that physicians aren't educated to have these discussions; there's a huge gap between what patients want and what we're able to provide them. Even among physicians who believe in God, the majority don't have such discussions with their patients. Whether they don't have enough time or adequate training, they end up leaving these matters to the chaplaincy. But patients *want* to have these discussions with their physicians. As for the relationship between religion and spirituality and health outcomes, studies show that it is mostly positive but somewhat inconsistent. Spirituality has been associated with positive outcomes in a variety of medical illnesses and mental illnesses, including substance abuse. As an addiction psychiatrist, I'm used to the construct of spirituality in Alcoholics Anonymous and other spiritually based interventions for addictive disorders.

Let's turn now to what is meant by spiritual distress and existential distress. Spiritual distress follows when a sudden crisis leaves a person unable to find sources of hope, love, meaning, value, comfort, or connection. We see this a lot in terminal illnesses and substance abuse. Drs. Avery Weisman and William Worden first described *existential plight*, or distress, as the exacerbation of thoughts about one's existence and potential for nonexistence following a diagnosis of cancer. There is a spectrum of responsiveness among patients who learn they have a terminal illness, from those who take it in stride and adapt fairly well to those who cannot cope and suffer hopelessness, depression, and suicide ideation. David Kissane, chair of the Department of Psychiatry at the Memorial Sloan-Kettering Cancer Center, describes this sort of existential distress phenomenon as remorse, powerlessness, futility, a sense of meaninglessness, and true demoralization. If you look at the prevalence of psychiatric distress

Psilocybin at the End of Life: A Doorway to Peace

in advanced and terminal cancer patients, it's incredibly high. And although it's a very common problem, there is no education around it, and very few doctors are trained to deal with it. No algorithms of care exist for the psychiatric care of patients with end-of-life distress.

An interesting study done by William Breitbart, vice chair of the Department of Psychiatry at Sloan-Kettering, surveyed about a hundred cancer patients and found that about 17 percent met criteria for major depressive disorder and another 17 percent had "a hastened desire to die." When researchers looked at correlation, the desire for death was significantly associated with major depression and hopelessness. Among patients who were neither depressed nor hopeless, none had a hastened desire for death. So, if patients have major depression, if they feel hopeless, we need to be very careful—and we need to intervene.

In another study, a spirituality measure from FACIT known as the Functional Assessment of Cancer Therapy was administered to about 160 patients with terminal illness—both cancer and AIDS. This instrument has two constructs: a meaning/peace subscale that measures intrinsic religiosity (which I consider true spirituality) and a faith subscale that measures extrinsic religiosity, as in the observance of rituals and customs rather than actual feelings of connectivity. The Hamilton Depression Rating Scale was also administered in this study. A strong negative association between the FACIT meaning subscale and the Hamilton Scale was found: The higher intrinsic religiosity/spirituality was, the lower the rate of depression. Some studies have shown a positive correlation between a high faith subscale, extrinsic religiosity, and depression. You can imagine this group of patients as getting very upset because they've followed the tenets of their religion, celebrated all the high holidays, but still get cancer. They say to God, "I'm so upset with you. How could you do this to me? I did everything you

told me to do, and now I have cancer. I'm pissed off. I'm angry. I'm depressed. I'm demoralized." So, just going to church or temple without *being spiritual* is not necessarily helpful.

Another study administered the FACIT, the Hamilton Scale, the Beck Hopelessness Scale, and the Scale for Hastened Death to 160 patients with short life expectancy. Again, significant correlations were found between spiritual well-being and decreased hopelessness, suicide ideation, and desire for hastened death. In a multiple progression, spiritual well-being was the strongest predictor of each outcome variable. All this suggests that we need to come up with psychotherapies and pharmacological modalities that address end-of-life distress by increasing spiritual states.

In designing our study at NYU, we wanted a psychotherapeutic platform, so we drew a lot from such established existential-distress interventions as *Recreating Your Life*, *The Healing Journey*, *Supportive Expressive Group Therapy*, and *Dignity Psychotherapy*. If psilocybin truly induces spiritual states—and it does—it needs to be imbedded within some kind of psychological platform. According to Breitbart and others, the palliative care literature emphasizes this focus on existentialism and spirituality. Charles Schuster, the former director of the National Institute on Drug Abuse, Herbert Kleber, a professor of psychiatry at Columbia University, and the National Cancer Policy Board are among a growing number who are calling for improved therapies for the dying.

A Good Death

"Meaning can be found in life literally up to the last moment, up to the last breath, in the face of death." I really like that quote from Holocaust survivor Victor Frankl, who went on to become a psychiatrist who adopted existential psychotherapy. It's true that we are meaning-making beings, and it

Psilocybin at the End of Life: A Doorway to Peace

doesn't stop when we're diagnosed. It's important to understand that a life doesn't end just because we are headed toward death; in fact, it can sometimes be the most meaningful aspect of people's lives. If we ask patients about their spiritual or existential needs, they will tell us, but we don't listen to our patients enough in medicine. We apply our training without necessarily understanding what a patient's perspective is. But what patients want when they're very sick is to overcome fears, to find hope, and to find meaning. The sicker patients get, the more these kinds of things become important to them.

What is a good death as opposed to a bad death? Well, certainly no one wants to be in pain. Pain is a horrible thing. Like depression and hopelessness, pain is highly correlated with a hastened desire to die. So, controlling pain contributes to a good death. Patients also want to make clear decisions as they prepare for their death. They want to complete things, and they want to deal with unresolved conflict. They also want to continue to contribute. I always hear from cancer patients that they hate being defined by their diagnosis. Patients also want to be able to review their life. How often do we have a chance to sit and reflect, to go back to the very beginning and through all the major aspects of our life? Subjects do this in our study. At the very beginning, we imbed the whole story of a participating patient. We get to know people in the study deeply.

Other factors that contribute to a good death include the following:

- pain and symptom management
- clear decision making
- preparation for death
- contributing to others
- affirmation of the whole person
- spirituality and meaning at end of life
- life review
- resolution of conflicts
- spending time with family and friends
- time for final dialogues/saying goodbye

Psilocybin's Profile

We turn our discussion now to psilocybin to see how this pharmacological agent can be used in the psychosocial treatment of end-of-life distress. There are 180 species of psilocybin, also known as psychedelic mushrooms. There are multiple terms and definitions for these agents, but none of them are great. Humphrey Osmond coined *psychedelic*, a popular but vague lay term for "mind manifesting." *Entheogen* is another term, which means "manifesting God from within" with a plant-derived compound. The term used within research settings is *hallucinogen*, but this too is a misnomer. These agents cause more illusions than hallucinations. Many other agents are true hallucinogens, but we don't call them hallucinogens—for example, PCP, ketamine, and dextromethorphan. Cocaine and alcohol can induce real hallucinations, but we don't include them in the nomenclature. So, we still don't have a great term for these agents.

I like this observation by William James: "Our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go throughout life without suspecting their existence, but apply the requisite stimulus, and at a touch they are there in all their completeness." Of course, James had the advantage of using nitrous oxide to help him shift consciousness. Back in the day of the science of pharmacology, it was classic for researchers to self ingest and to write about it.

When I was doing my psychiatric training, I was taught that these kinds of altered states were all pathological. Psychiatrists are supposed to fight such states and get people out of them. Psychiatric textbooks focus on the negative, frightening, horrible things that can happen under the influence of psychedelic agents. But what about so-called psychotic states that have a positive valence and persisting positive changes? We don't have a nomenclature

Psilocybin at the End of Life: A Doorway to Peace

in our psychiatric lexicon to understand these phenomena. Roland Griffiths talks about the unitary state of consciousness as being very much a part of mystical states. There is an internal component that has to do with fusing with ultimate reality and an external component of feeling one's consciousness is part of a greater consciousness. Other facets of mystical states include a transcendence of time and space, a deeply felt positive mood, and a sense of sacredness. There is also a *noetic* quality of being in touch with what's really real—that what we typically think is real in life is, after all, illusion. Imagine being in touch with something that feels more real than your normative reality, having a sense or an illuminative insight about what's most important. Being in touch with something like that can really alter one's intentionality and direction in life.

What triggers mystical states? Among the many triggers, including psychedelic agents, that can lead to mystical states are illness and despair, prayer and meditation, natural beauty, love and intimacy, creative work, and the scientific pursuit. Humans have sought to alter their states of consciousness in these kinds of ways for a long time—and we now know that we have neural tissue that mediates these states. Fascinating!

So what happens when someone takes psilocybin? When your intention is not of the sacred—the way these agents are used in the U.S. by college and high school students to party and have fun—you can get into real trouble. They can also be problematic for people with major mental illness. These agents are not for everyone, especially if given to people who are, as Jeremy Narby says, “psychologically delicate.” Using these agents in a research setting, where you are carefully screened and have two caring therapists preparing you, is much different from using these agents in an uncontrolled environment.

A person's experience with a psychedelic substance will be influenced by set, setting, and dose. Set refers to the psychological and physical states a person is already in when ingesting the substance. Setting—

one's environment—is key as well. Someone's experience in a controlled, contained environment will be much different from the experience that would be found in a chaotic, difficult one. The difference between a therapeutic experience and a toxic one also depends on dose. Roland Griffiths' research shows a relationship between dose and the likelihood of a mystical experience. There may be an optimal window of dosing that produces a mystical experience, but beyond that there may be no more therapeutic benefit and perhaps even adverse events.

The psychedelic effects of psilocybin occur in the first 70 to 90 minutes after ingestion, peak at about 105 minutes, plateau for about another 50 minutes, and then wane. That the whole arc of the experience is about six hours is very important for using this drug in a laboratory setting, because it has to be feasible. After about four hours, most people are closely back to normal reality; by six hours, all are back to normal reality. Everyone in the lab can pack up and go home. Psilocybin is very doable in the academic research setting of multiple demands.

Psilocybin also has a remarkably safe physiologic profile, which is important, especially when dealing with the FDA because it's hard to get approval for these studies. There have been no case reports of human death from psilocybin. We know that it reliably causes mild elevations in blood pressure, but this is not known to be dangerous. Neither is psilocybin addictive. The problem with psilocybin is that people can experience anxiety, fear, panic, and dysphoria. This made me nervous about undertaking our study at NYU—patients who have terminal cancer and are anxious already agree to take a substance that could make them more anxious. We don't tell them that this is necessarily a bad thing; instead, we let them know that anxiety will probably happen and instruct them not to be fearful but to pass through it. We let them know that we will be there with them and that the experience actually may be therapeutic. With careful preparation ahead of time and supportive conditions, the rate of adverse psychological events

Psilocybin at the End of Life: A Doorway to Peace

is low, making psilocybin safe to be administered in laboratory settings.

The research being done on psychedelic agents in the sixties took a new turn when a nurse participating in one of the studies developed terminal breast cancer and asked if a psychedelic drug could help her. The research focus subsequently expanded beyond addiction to include terminal cancer. When Charles O'Brien, one of the country's foremost addiction specialists, was asked about parameters for a modern methodological study of psychedelic agents and their effects on terminally ill patients, he listed specific diagnosis, validated measures, severity measures, informed consent, placebo control group, randomization, and standardizing the dose of psychotherapy as much as possible. We have tried to do this in our study. Jeff Guss is the director of our psychedelic psychotherapy training program, and he has put together a training manual that specifically describes what we do psychotherapeutically, how we can measure dose, and how we can standardize what is done among our therapists so that everyone is doing something similar. We're still in the process of developing the manual and hope to publish it in the future.

Charles Grob recently did a study on the "[Effects of Psilocybin in Advanced-Stage Cancer Patients with Anxiety](#)," published in the *Archives of General Psychiatry*. It showed, number one, that it is feasible to do these studies, and number two, that it is safe. There were no major adverse medical events or psychological events. Instead, psilocybin compared to placebo reliably caused mystical states, as measured by experiences of oceanic balance and visionary restructuralization. The study also showed trends toward acute reductions in depression when comparing psilocybin to placebo. This was also the case with other depressive measures.

Case Studies in Transformation

Our design at NYU is similar to the one in Grob's study except that our dose is higher. We developed it in conjunction with Sloan-Kettering, which provided wonderful scales that measure attitudes toward disease, progression, and so on. The study duration is nine months. We have had seven subjects enroll. Six have received one dose of psilocybin and of placebo. These subjects are not hippies from the sixties who think it's groovy to do this again; they are patients who are dying in distress, people in their sixties and seventies facing serious end-of-life phenomena. I want to talk about two of them.

The first is a 59-year-old woman. Originally from Czechoslovakia, she is currently married with an 8-year-old son and has four kids from previous marriages. She grew up Catholic but found the Catholic God too punishing. She has trended toward Buddhism. She was diagnosed with metastatic tonsillar cancer—with a 10 percent chance of survival—and enormous anxiety. She is, however, in remission after treatment. The problem was that she didn't believe the remission was real. She felt she was destined to die. Because she left her original family and lived a kind of unspiritual life for years, she felt she had hurt her family and that her cancer was a punishment from God.

About half an hour into her psilocybin session, she says, "I feel a bit lightheaded. A weird thought came into my head. I remember my friend who shot herself in the head fifteen years ago." In the next two hours, she had a mystical experience. She felt a connection with a transcendental force, during which she said, "These images keep coming to me." Being with her was like being with an awake dreaming person. We asked her what was going on, and she said she couldn't stop thinking of her friend who killed herself. She said, "Her death was so remarkable in my life. It was a transformative moment. It scared me and made me reconnect with my family."

Psilocybin at the End of Life: A Doorway to Peace

For the last fifteen years, this woman had lived a very spiritual life. We made the interpretation for her that “You have been a good person for fifteen years, and you can forgive yourself.” We also said, “Think of your Buddhist God, and forgive yourself. You can let go of your guilt.” A remarkable thing happened. At the end of the session, she said, “I feel light. I don’t know what’s going on, but something has passed from me. I feel so much better.” The next day we asked her how she was doing, and she reported feeling great. When asked about her cancer, she said, “I don’t connect with it anymore.” Two weeks later, two months later, six months later, every single day for her is like Groundhog Day: *How are you doing? I feel great.* She went back to gardening. She went back to listening to music. She reconnected with meaningful aspects of her life. I thought this woman must have been planted in our study and that this could not be a true phenomenon. Although I found it hard to believe at first, I’ve seen it again and again since.

In another case, we treated a 50-year-old man who worked on Wall Street. Although he was raised Catholic, he had no connection with any meaningful parts of the religion. He was a nonspiritual person. He was diagnosed four years ago with metastatic colon cancer and was told he had fourteen to sixteen months to live. He felt an enormous fear of death and of leaving his wife. He had a birthing experience during his psilocybin session. He was lying down on the couch and reported that something was passing through him. He behaved as if he were in the OB/GYN’s office. Holding the therapist’s hands and putting his legs up as if he were in stirrups, he cried, “Something is passing through me.” And then it came out, and he said, “Oh, it’s beautiful. It’s a cocoon. It’s so warm in here. It’s a cocoon filled with pure love. I’ve never felt anything like it.” Then he had this experience of feeling connected to a transcendental force. Coming out of the experience, he said, “I know I’m going to be okay now. I know I’m going to be okay. I’m ready to go, God. No, no, no—I’m not ready to go. I still have more to do, but now I know it’s going to be okay.” He described an

orgasm of the soul and a resolution of his fear of death. Three months later, this nonspiritual man developed a daily mindfulness-based meditation practice, and he reads voraciously about spirituality. He feels better, but unfortunately his disease is progressing. Though he is dying, he continues to say, “I know it’s progressing, but I also know I’m going to be okay.”

Although we haven’t looked at all our data yet, I can say that all of our subjects have improved clinically—some very dramatically. In my fifteen years as a psychiatrist, I’ve seen some profound things. Here I’ve seen decreased death anxiety, decreased depression, greater integration back into daily life, improved family function, and increased spiritual states. Half of our patients had classic mystical experiences, and the other half probably had near-mystical experiences. All of them said something along the lines of what one subject said, “I feel now that I have my driver’s license, and I want more help.” All wanted to do another dose (I wish we had that in our study protocol). I think psilocybin is a safe treatment modality that can potentially be a paradigm change within psychiatry and very helpful to dying patients.