Dear Alice,

I made the unfortunate decision of trying Ecstasy this past weekend. I loved it so much after the first pill, I decided I'd pick up a few more. By the end of the 12-hour party, I had taken 9 pills. Afterward, I found out that 9 pills is WAY more than anyone should take (relatively speaking). Ever since, I've been suffering from an unshakeable depression (and other minor effects). From the reading I've done, it seems that my serotonin levels are probably drastically out of balance now. Is there anything I can do to speed my recovery? Elevate my serotonin again? How long will this last? Did I cause myself permanent brain damage? I can't find ANY real, tangible information on this subject. Well... at least one good thing came of it, I'll never do drugs again! Thanks for your time.

Answer

Dear Reader,

It seems as though you’ve learned the limits of your body the hard way, but the good news is that it has its own methods of recuperation. The substance you used, ecstasy, is formally known as 3,4-methylenedioxymethamphetamine (MDMA for short, or colloquially, "Adam," "Bean," "E," "XTC," or "Love Drug") and is a stimulant that often creates amphetamine-type hallucinogenic reactions. And, as you’ve learned, due to its interference with metabolism, MDMA is able to reach high levels in the body with repeated use in a short amount of time as it becomes harder for the body to process, making the effects more toxic. When high on ecstasy, users may feel more extroverted, emotional, and empathetic, which is caused by a surge of mood-regulating neurotransmitters. Coming down from the high, however, may result in rather unpleasant physical and psychological effects as ecstasy results in a temporary imbalance of these key neurotransmitters. It’s hard to estimate an exact time period for recovery, as each person who uses it is affected differently. For more on the effects of excessive ecstasy use and its impacts on neurotransmitters, keep on reading!

Ecstasy is linked to severe anxiety, depression, paranoia, drug cravings, and sleep problems (such as insomnia). These psychological side effects usually last four to six hours but may last up to a few weeks. The longest they’ve been reported to last is six weeks and may also include physical symptoms such as muscle tension, nausea, blurred vision, teeth clenching, increased heart
rate, and increased blood pressure.

A host of physical and psychological effects result from the increased release and blocked reuptake of neurotransmitters serotonin, dopamine, and norepinephrine. Psychological effects often dissipate more quickly, sometimes within a week, but serotonin levels may stay severely low in your body for up to three weeks. These low levels may influence the way your body feels for a longer period of time. For those who use ecstasy regularly, research suggests that it's possible that the psychological side effects of using ecstasy have the potential to be permanent. Additionally, though there are a limited number of studies so far, some have shown an increased risk of cognitive problems with long-term memory and learning as a result of ecstasy use.

Though ecstasy affects the levels of all three of these neurotransmitters, it particularly causes more serotonin and norepinephrine to be released relative to dopamine. Serotonin plays a critical role in the body, including regulating mood, sleep, and many other behaviors. Since so much serotonin is released during excessive use of ecstasy, the brain temporarily “runs out” of it, resulting in many of the negative effects people feel afterwards. When used excessively or with selective serotonin reuptake inhibitors (SSRIs), MDMA use could result in serotonin syndrome, a condition that arises from the accumulation of high levels of serotonin in the body. Some symptoms include rapid heart rate, restlessness, high blood pressure, dilated pupils, muscle problems such as twitches or loss of coordination, headaches, shivering, and diarrhea. When mild, serotonin syndrome subsides within one to three days once the serotonin-affecting drug (such as ecstasy) is stopped. However, when severe, serotonin syndrome may result in unconsciousness or even death if not treated.

There's no quick remedy, solution, or cure to reverse the effects of ecstasy use or increase the low levels of serotonin in your body. Artificial serotonin isn't prescribed because it's not easily transferred from blood to the brain. Although there's no quick fix, try helping your neurotransmitters get back to their usual levels by taking it easy and avoiding any other substances that might contribute to feeling depressed (for instance, alcohol).

If you're still feeling down for a while after your high is over, consider making an appointment with a health care provider to decide what's best for you as you bounce back. And though it may seem difficult to talk with a medical professional about drug use, they're able to offer valuable support and resources that may help you feel better. It may also be helpful to remember that health care appointments (including mental health care) are confidential. Talking with someone may help set your mind at ease while your body is recovering.

Take care,

Alice!

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