Dear Alice,

I read your response to Ecstasy drain spinal fluid? in the archive, and you advised to drink water and not overheat while on ecstasy... Isn't there a danger in drinking liquid while "high" because of fluid retention that is caused by ecstasy?

Well, that's all...

Answer

Dear Well, that's all?,

There is indeed danger in overhydrating with some drugs? and ecstasy is one of them. When you drink too much water it could cause hyponatremia, or the extreme dilution of sodium (salt) levels in the body (too much water, not enough sodium). Some ecstasy users will drink too much water without sufficiently replacing depleted sodium and this puts them at risk for not only hyponatremia, but also cerebral edema (swelling of brain cells).

So, what happens when someone uses ecstasy that may lead to hyponatremia?

1. Taking ecstasy causes the release of neurotransmitters that stimulate the pituitary gland (located at the base of the brain). This causes the release of three hormones: cortisol, oxytocin, and vasopressin.
2. Having cortisol in the body can increase your energy, elevate your mood, allow you to engage in intense physical activity, and increase your metabolic rate. This may be why many ecstasy users report intense and prolonged dancing and movement? and why it is a drug popular for raves, concerts, and other parties.
3. Ecstasy can also cause vomiting and/or diarrhea. Prolonged physical activity, vomiting, and/or diarrhea can contribute to intense sweating or fluid loss. These, in turn, can lead to dehydration (when sodium levels in the body are too high) and sodium loss through sweat.
4. At the same time, ecstasy can also cause water retention. Vasopressin (one of the other hormones released by the pituitary gland) is an anti-diuretic hormone which regulates blood pressure and water retention. When sodium levels get too high, your body feels dehydrated (you will likely feel thirsty!). Vasopressin is then released to allow for more water to pass through your kidneys. On the flip side, when your sodium levels become too low, vasopressin is no longer released and your kidneys absorb less water? and you urinate more!
5. When you use ecstasy, vasopressin is released because you've taken the drug and not because you are dehydrated. So, your body retains more water than it would normally. What does all this mean? Basically, if you are simultaneously dancing and sweating, you're likely to lose a decent amount of salt and water. You're probably also drinking a lot of water to quench your thirst even though your body is retaining water because of the vasopressin. If the level of sodium in your body remains low, but the level of water is rapidly increasing because you are drinking a lot of water, you run the risk of hyponatremia and cerebral edema.

Initial symptoms of hyponatremia can include headache, nausea, vomiting, and altered mental status. What can you do for someone who may be showing symptoms of hyponatremia? Help them get medical attention! Hyponatremia can have many side effects: memory loss, impaired concentration, seizures, coma, and even death. Cerebral edema can also lead to seizure or coma. Research indicates hyponatremia may be more common and more serious among women, and more specifically, among pre-menopausal women. So, while this information is valuable for all, it's especially important for those women because they have higher levels of estrogen in their bodies. Estrogen appears to increase the impact the vasopressin, thereby increasing the swelling of the brain cells along with the constriction of blood vessels. These issues can quickly lead to serious cerebral edema, seizure, and coma. The good news is that for those suffering from hyponatremia, treatment with IV fluids can help stabilize sodium levels and reduce brain cell swelling.

If you or someone you know chooses to use ecstasy, you can reduce the likelihood of hyponatremia by drinking water slowly (versus guzzling a lot at once) and by including salty snacks, juice, or sports drinks to help replenish electrolytes (sodium is an electrolyte!). You can learn more about ecstasy and other drugs that are sometimes used at parties through Dance Safe [3], a peer-led, harm reduction organization. You might also check out other related Q&As in the Go Ask Alice! Alcohol and Other Drugs [4] archive.

Hope this helps!

Alice!
Category:
Alcohol & Other Drugs [5]
Cocaine, Speed, & Other Stimulants [6]

Related questions

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