Alcohol sensitivity is inherited

A Swedish researcher has found that people who have alcoholics in their close family get a much bigger kick out of alcohol than others. She believes the reason is that they have a more sensitive reward system. The part of the brain focused on rewards reacts particularly strongly when people are stressed.

“If you get a kick out of drinking and experience euphoria from intoxication, you are at risk,” says Anna Söderpalm-Gordh, a researcher in experimental psychiatry at Sahlgrenska Academy in Gothenburg.

Hereditary risk

“We know that alcoholism is hereditary. Nearly 50 per cent of alcoholics have inherited the disease,” says Söderpalm-Gordh.

“Let’s say you and I were to split a bottle of wine. We would probably have different experiences, despite the fact that we are of the same gender, and similar weight and age.”

“One of us might get a big kick out of the wine and would not be satisfied by half a bottle. The other might feel tired and experience a slight discomfort,” she explains.

Söderpalm-Gordh does not only share imaginary wine bottles. She serves alcohol to research subjects.

She plans to do this for many years to come.

“I divide the subjects into groups and give them alcohol. All the participants are healthy and none of them have problems with alcohol. They are served an amount that is adjusted to their body weight, so everyone ends up with the same percentage of alcohol in the blood.”

Clear differences

Every fifteen minutes the intoxicated subjects are asked about the experience. The first time the researcher performed this experiment, the participants were 23 years old. She found clear and interesting differences among them.

“People with alcoholism in the family are more sensitive to the rewarding effects of alcohol. They react more strongly and more positively than others.”

Söderpalm-Gordh is one of the few alcohol researchers in Europe who study healthy people. The vast majority of research on alcoholism is focused on people who have already developed the disease.
Many young people drink a lot

About half of the subjects had a close relative who is or was an alcoholic.

The hypothesis is that these individuals have a greater risk of developing an alcohol problem. In order to determine this, Söderpalm-Gordh must study the same individuals over time.

Many people drink a lot when they are 23. But in most cases, the consumption is reduced when they have children. When the kids grow up and move out, alcohol consumption tends to increase.

“I want to know if there is a relationship between positive reactions to alcohol at 23 and how much you drink later in life. The individual experience of alcohol is an important tool for understanding why some people develop alcoholism,” she says.

She believes that many people abuse alcohol during periods of their life without ending up as alcoholics. Signs of danger include markedly increased tolerance and spending a lot of time thinking about alcohol.

People know they are at risk

Söderpalm-Gordh believes that young people quickly realize it if they are predisposed towards alcoholism.

“If you get a real kick out of drinking and a feeling of euphoria from intoxication, it is likely that you are at risk.”

Most people feel a bit elated from a glass or two. We are put in a better mood, become more talkative and energetic. However, most people lose this feeling when they continue drinking. The result is fatigue and discomfort.

Persons who are predisposed towards alcoholism can drink a lot more, the researcher explains.

“They should not drink when they are stressed,” she says.

Söderpalm-Gordh did a study in which subjects were allowed to drink alcohol while doing mental arithmetic. The group that had alcoholism in the family drank a lot more than the others, she says.

We know too little about alcoholism

Even though alcoholism is a common disease, we know surprisingly little about what really happens when we drink.

Alcohol affects many areas of the brain, says Söderpalm-Gordh.

“A drug like amphetamine only acts on the dopamine level in the brain. Dopamine is secreted as part of our reward system. But when we drink alcohol there are lots of different things happening in the brain. Increased dopamine levels is just one of them.”

“Alcohol acts on everything in the brain,” she says.

Loss of sleep

Söderpalm-Gordh believes that the general public knows too little about the signs of alcoholism. The result can be delays in treatment.
Danger signs include deteriorating sleep and problems with concentration and memory. Sooner or later, the physical effects of the abuse will appear.

Her advice is to go to your GP and ask for help. If you wait too long, the disease will become difficult to treat.

Today there are many different medications on the market. They are effective, she says. The latest drugs adjust the brain’s reward system simply by attenuating the reward from alcohol. The craving disappears.

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Some people have more sensitive reward systems than others. They get a bigger kick out of alcohol. (Photo: Thorsten Henn, Scanpix) [8]
A lot of people drink a lot when they are 23. But in most cases, the consumption is reduced when they have children. (Foto: Mike Schröder/Scanpix) [9]
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