Acute family stress can impact a child’s immune system

High levels of stress in a family can undermine a child’s immune system, making it easier for viruses and bacteria to do their worst.

Our immune system protects us from bacteria and viruses. But intense or long-lasting psychological stress can have a negative effect on an individual's immune response.

“We are not talking about the types of daily stress that all families encounter,” says Maria Faresjö, a professor at Jönköping University in Sweden.

The family stress that concerned the researchers was more serious – such as the kind that can develop when a close family member dies or when adults are caught in tough, unmanageable situations.

This kind of family stress, which can arise during divorces, can often be a long-term problem.

Elevated cortisol levels

A Swedish research group has looked at how this kind of stress can affect a child’s immune response.

The researchers from the School of Health Sciences at Jönköping University and the Faculty of Health Sciences at Linköping University found that children in high-stress families had elevated levels of cortisol.

Cortisol is also known as the stress hormone, because it can be used to as a way to guage stress levels.

The hormone is also important for the human immune response.

The Swedish study suggests that high stress levels have a negative effect on children’s immune systems. It weakens their defences, making them more likely to get sick.

Two groups of children

The study was conducted with families that had five-year-olds. Among 100,000 possible families, 100 were selected.

The parents answered questions regarding stress and prospective difficulties that had impacted the family, such as divorces and unemployment.

Their answers led the researchers to 26 children who probably experienced high levels of stress in their families. A group of 52 children were picked who presumably had grown up with normal stress levels.
The researchers measured elevated levels of the stress hormone cortisol among the first group.

Autoimmunity

Faresjö says that the new study also shows that the children in the high-stress group also reacted to substances produced by their bodies. This is linked to an autoimmune reaction.

Instead of protecting the body against viruses and bacteria, the immune responses in these children turned against cells and tissue in their bodies which should not have been attacked. This can lead to diseases such as type 1 diabetes.

“As we have now uncovered this interesting link among small children, we want to see if we find it among young adults aged 18-22,” says the Swedish researcher.

The young men and women in this older age group can report the stress levels in their daily lives themselves. The researchers will not have to find individuals with high stress levels via their parents.

This should lead the researchers to acutely stressed individuals – and should allow them to test to see if they have impaired immune responses. The researchers may also find that these individuals also suffer autoimmune problems.

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