

## Christmas really can make you ill, leading academic warns

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A breakdown in usual routines, less sleep, more alcohol and immense pressure to be the perfect host can combine to create a very real risk of Christmas making people ill, a University of Birmingham researcher has warned.

**Dr Anna Phillips** (<http://www.birmingham.ac.uk/staff/profiles/sportex/phillips-anna.aspx>), Reader in Behavioural Medicine at the School of Sport, Exercise and Rehabilitation Sciences is an expert in stress and health, and how stressful life events can impact upon a person's immunity and lower the body's natural defences.

Scientific evidence has proved that smaller stressful events can be almost as negative for health as those perceived as major such as bereavement, loss of a job or serious illness. And, Dr Phillips warns, at Christmas, these smaller events can build up, and have serious consequences for a person's health.

Previous studies have shown that a phenomenon known as the four day desirability dip can occur after smaller, stressful events – that is, desirable events, which a person would class as mood enhancing, are less frequent four days prior to an individual experiencing an illness episode, giving rise to the idea that these smaller stressful events cause illness.

Dr Phillips explained: "At Christmas, when we are trying to do everything, or get everything finished at work before the break, there can be a dip in desirable events and a rise in negative mood, caused by the varying pressures we all find ourselves under, such as financial worries, time constraints and a lack of support from friends or family.

"These kinds of worries, when built up, can, quite literally make us ill, as the stress from these events affects the balance of the body's hormones.

"There is a clear link here between stress and a deficiency in secretory immunoglobulin A (SIgA), which we have seen is lower in those people experiencing a build-up of life events that they perceive as stressful and disruptive. And, as SIgA is a type of antibody which protects against infections at the mucous membranes of the mouth, airways and digestive tract, it is easy to see how a deficiency of it can hinder our body's immune system and make us more susceptible to infections."

Dr Phillips' own work has shown that as we age, our immune system becomes less efficient, and stress can worsen this. The adrenal glands produce the stress hormone cortisol – an immune suppressor long prescribed as corticosteroids (steroids) to reduce inflammation. The adrenals also produce dehydroepiandrosterone (DHEA) which counters the negative effects of cortisol and helps to increase immune function. After the age of about 30, levels of DHEA drop until, by the time we are 70 or 80, they have fallen to about ten per cent of their peak output, leaving older adults with a higher cortisol:DHEA ratio, thus reducing immune function and leaving them open to infections.

Individuals who have undergone severe stress also have a higher cortisol:DHEA ratio, and it is quite possible that people undergoing a lot of stress at Christmas could also have their cortisol-DHEA ratio affected in a similar way, although we have not specifically measured this.

Christmas in particular can exacerbate these causes, because we tend to have time off work – and fall ill during these periods. Dr Phillips explained that other academics had shown that this 'leisure sickness' idea had roots in a number of causes, including the exposure to different health behaviours when not at work, such as more alcohol and less sleep. As well it is thought that the stress response system is stimulated while at work causing us to ignore bodily symptoms, which we then notice more readily once we stop or slow down.

But Dr Phillips said it is not all doom and gloom and there are things people can do to ensure that their Christmas does not become a headache in more ways than one.

She said: "People need to look after themselves. Ensure you have plenty of good quality social support from friends and family, and ensure you continue to maintain some healthy behaviours – get some exercise and plenty of sleep.

"Listen to your body's slow down signals and obey them – and most of all, make a holiday exactly that; a relaxing break."

### Notes to editors

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