Stressed doctors make more mistakes


Stress and errors go hand in hand in hospital emergency rooms, according to new research.

An unpredictable busy schedule is an inevitable part of life when you work in the emergency ward of the hospital.

New research shows for the first time that medical staff who experience more stress factors also make more mistakes, and their patients experience more adverse effects that are unrelated to their illness.

"It’s natural to think that the more stressed you are, the more errors [you make],” says co-author Kent J. Nielsen, deputy head of occupational medicine at Herning Regional Hospital, Denmark.

“But until now we haven’t had any substantive scientific evidence of this,” says Nielsen.

The results are published in the American Journal of Emergency Medicine [6], and was supported by TrygFonden.

Read more: Less stress when work relationships are good [7]

The study focuses on the particularly stressful experiences of staff in a newly opened emergency department, dealing with all the pressures of initiating new cooperation structures both internally and with other hospital departments.

"If we hadn’t found a link between stress and patient [health] here--where [staff] were under so much psychological pressure--we probably wouldn’t be able to find it anywhere else," says Nielsen.

Though he emphasizes that these specific circumstances mean that the results cannot be immediately applied more generally to other departments.

Correlation between stress exposure and mistakes

Health researchers have been interested in the relationship between stress and errors for some time. Previous research has measured the number of occasions that staff were exposed to stressful incidences, reported after their shift. But no one has actually measured stress levels among employees in individual situations before.

"We’ve measured the amount and impact of a range of stress factors, which we regard as an indicator of people's actual stress levels. And we saw a significant correlation between the number of stressors experienced by employees during their shift and the risk of making an error or being involved in some adverse event," says Nielsen.

Scientists had already identified 12 potential stress factors based on existing research and initial interviews with the hospital staff.
Read about the 12 potential stress factors in the Fact Box.

Interruptions proved to be the most frequently experienced stress factor. But employees also reported poor cooperation within and between departments as another major source of pressure.

Do stress factors truly represent stress levels?

Keith Wrenn, a professor of emergency medicine from Vanderbilt University in Nashville, Tennessee, has previously tried to measure the correlation between stress and errors in emergency departments in the US. He measured emergency doctors' actual stress levels [8] to study how a series of events affected them.

"We chose to use an adapted version of a measuring tool by means of a questionnaire testing people's perceived stress levels," says Wrenn.

"The test had been validated and used in European police forces, and it enabled us to compare how stressed the various hospital doctors were on different shifts," he says.

One draw back with measuring stress after the doctor’s shift, is that many doctors may not report some incidences of daily stress retrospectively.

"The best stress measurements are often those where you ask about, for example, sleep and concentration problems over a longer period. We could’ve asked about this too, but we were primarily interested in how stressed employees were throughout their shifts, as it’s probably the instantaneous stress that causes people to make mistakes," says Nielsen.

"So we had to use a [technique] that could tell us something about the types of events that potentially caused the stress and the following adverse events," he says.

Read more: Younger doctors are more depressed [9]

People react to stress differently

We all handle stress differently and researchers need to account for this in their studies of the impacts of stress.

"People have very different stress thresholds. Some people are rarely stressed, while for others a single event could be enough to change their stress levels. So [in the US study] we chose to compare the [study participants] with themselves," says Wrenn. In that way, each participant served as their own control throughout the study, providing a relative picture of how they each responded to stressful events.

Nielsen and colleagues tried to address this by asking each employee how much they had been affected by the various events they had experienced during their shift--their so-called perceived load of stress.

"However, we saw that the result was much the same, whether we used the number of stress factors or the perceived load as an indicator of stress," says Nielsen.

Read the Danish version of this article on Videnskab.dk [10]
Stressed out emergency department medical staff make more mistakes. But what comes first--the stress or the mistake? (Photo: Kristian Kirk Mailand / Colourbox)

Fact box

**12 potential stress factors**

- Interruptions or disturbances to work
- Inadequately equipped to carry out one or more required tasks
- Not enough time to finish a job
- Internal cooperation problems between colleagues/managers/other professionals within a department.
- External cooperation problems with staff in another department
- Exposure to violence or threats of violence
- Emotionally demanding patients
- Criticism or verbal attacks
- Too busy to resolve work tasks properly
- Too few opportunities to plan work tasks
- Lack of support from colleagues or other professionals
- Too much noise prevents concentration

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Catherine Jex

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