SYNOPSIS

KEY POINT SUMMARY

OBJECTIVES

The main objective of this study was to investigate whether extended-duration shifts worked by medical interns led to medical errors, adverse events, and attentional failures.

DESIGN IMPLICATIONS

Guidelines for graduate medical education in the United States still allow up to nine marathon shifts (30 hours at a stretch) per month, even though the total number of hours worked is capped. Extended-duration work shifts were associated with an increased risk of significant medical errors, adverse events, and attentional failures in interns across the United States.

Impact of Extended-Duration Shifts on Medical Errors, Adverse Events and Attentional Failures

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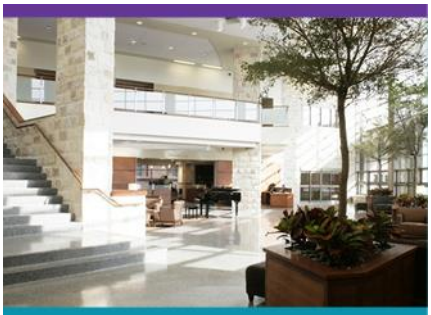
Key Concepts/Context

In the United States, medical students who are doing their internship (first year of postgraduate clinical training) regularly work in the clinic for longer than 24 hours at a time. There has been empirical evidence that the extended-duration shifts commonly worked by medical interns in hospitals may contribute to the risk of medical errors being made and perhaps to the risk of adverse events more generally. The current study assessed whether extended-duration shifts worked by interns are associated with significant medical errors, adverse events, and attentional failures in a diverse population of interns across the United States.

Methods

The authors of this study conducted a confidential web-based survey across the United States in which 2,737 interns completed 17,003 monthly reports. Individuals who agreed to participate were directed to a secure website to enter basic information about themselves and then to complete a form each month. On that form the interns gave information about their working hours, hours of sleep, and number of extended-duration shifts worked, and completed questions about medical errors in the past month. Then, for each intern in the study, researchers compared month by month the number of medical errors and the number of extended-duration shifts that had been worked. The association between the number of extended-duration shifts worked in the month and the reporting of significant medical errors, preventable adverse events, and attentional failures was assessed using a case- crossover analysis in which each intern acted as his/her own control.



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Findings

Interns working five or more extended-duration shifts per month reported more attentional failures during lectures, rounds, and clinical activities, including surgery and reported 300% more fatigue-related preventable adverse events resulting in a fatality. Compared to months in which no extended-duration shifts were worked, in those months in which between one and four, and more than five extended-duration shifts were worked, the doctors were, respectively, three and seven times more likely to report at least one fatigue-related significant medical error. Similarly, fatigue-related adverse events increased by around seven and eight times, respectively, compared with months in which no extended-duration shifts were worked. Interns working more than five extended-duration shifts per month were also more likely to fall asleep during lectures, rounds, and clinical activities, including surgery.

Limitations

The authors used a self-reported web-based survey wherein there is a probability of participant (intern) sensitization and bias in reporting information about errors.