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## Drug Interaction Alerts Overload?



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Although computerised drug interaction alert systems (DIAS) appear useful for promoting medication safety, having to enter passwords to override alerts may represent an excessive burden for physicians and thereby increase "alert fatigue", according to a study published in *BMC Medical Informatics and Decision Making*. The results suggest that physicians' workloads should be considered in future DIAS designs.

Previous research has indicated that over-alerting and a lack of practical management or recommendations often cause physicians to disregard even serious DIAS alerts. To reduce alert fatigue, a number of studies have attempted to identify and rate key drug-drug interactions (DDIs). Findings from these studies suggest that physicians typically override alerts due to prior awareness of the DDI, insufficient knowledge of the DDI, or carelessness.

The new study was conducted by Yasuyuki Nasuhara, MD, PhD, Division of Hospital Safety Management, Hokkaido University Hospital, Sapporo, Japan, and colleagues. They analysed physicians' responses to alerts of relative contraindications and contraindications for coadministration in a DIAS at the hospital. In this system, physicians must enter a password to override an alert and continue an order. To obtain the password, which is randomly generated and changed daily, they have to contact the hospital pharmacists. All DDI alerts generated by the system between December 2011 and November 2012 were included in this study.

The system generated a total of 170 alerts of relative contraindications and contraindication for coadministration; 59 (34.7 percent) of the corresponding orders were cancelled after the alert was accepted, and 111 (65.3 percent) were overridden. The most frequent contraindication alert was for the combination of HMG-CoA (3-hydroxy-3-methylglutaryl-coenzyme A) reductase inhibitors and fibrates, followed by tacrolimus hydrate and potassium-sparing diuretics. No incidents due to these combinations were recorded in the patients' medical records up to 28 months after the prescriptions were issued.

"In the computerised DIAS in our hospital, the password system prevents physicians from prescribing contraindicated drug pairs carelessly," the authors write. "[B]ecause physicians had to consult with pharmacists directly to obtain override passwords, physicians could only decide to continue with their orders after receiving detailed pharmaceutical reasons for the contraindications. The present study therefore revealed that even under such conditions, physicians still override DDI alerts at a high rate."

The results suggest that physicians' workloads should be considered in future computerised DIAS designs, according to the research team. One way to reduce alert fatigue may be to temporarily deactivate alerts for the same contraindicated drug pairs prescribed to the same patient by the same physician that have been overridden, the team explains.

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