The aim of the study was to investigate the efficacy of intravenous (IV) smart pumps with drug libraries and dose error reduction system (DERS) to intercept programming errors entailing high risk for patients in an adult intensive care unit (ICU)” Ibarra-Pérez et al (2017).

Abstract:

OBJECTIVES: The aim of the study was to investigate the efficacy of intravenous (IV) smart pumps with drug libraries and dose error reduction system (DERS) to intercept programming errors entailing high risk for patients in an adult intensive care unit (ICU).

METHODS: A 2-year retrospective study was conducted in the adult ICU of the Hospital Juárez de México in Mexico City to evaluate the impact of IV smart pump/DERS (Hospira MedNet) technology implementation. We conducted a descriptive analysis of the reports generated by the system’s software from April 2014 through May 2016. Our study focused on the upper hard limit alerts and used the systems’ variance reports and IV Medication Harm Index methodology to determine the severity of the averted overdoses for medications with the highest number of edits.

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RESULTS: The system monitored 124,229 infusion programs and averted on 36,942 deviations of the preset safe limits. Upper hard limit alerts accounted for 26.4% of pump reprogramming events. One hundred sixty-six significant administration errors were intercepted and prevented, and IV Medication Harm Index analysis identified 83 of them as highest-risk averted overdoses with insulin accounting for 51.8% of those. The rate of compliance with the safety software during the study period was 69.8%.

CONCLUSIONS: Our study contributes additional evidence of the impact of IV smart pump/DERS technology. These pumps effectively intercepted severe infusion errors and significantly prevented adverse drug events related to dosing. Our results support the implementation of this technology in ICUs as a minimum safety standard and could help drive an IV infusion safety initiative in Mexico.

Reference:

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