Abstract:

Background: Medication administration errors are frequent and lead to patient harm. Interruptions during medication administration have been implicated as a potential contributory factor.

Objective: To assess evidence of the effectiveness of interventions aimed at reducing interruptions during medication administration on interruption and medication administration error rates.

Methods: In September 2012 we searched MEDLINE, EMBASE, CINAHL, PsycINFO, Cochrane Effective Practice and Organisation of Care Group reviews, Google and Google Scholar, and hand searched references of included articles. Intervention studies reporting quantitative data based on direct observations of at least one outcome (interruptions, or medication administration errors) were included.

Results: Ten studies, eight from North America and two from Europe, met the inclusion criteria. Five measured significant changes in interruption rates pre and post interventions. Four found a significant reduction and one an increase. Three studies measured changes in medication administration error rates and showed reductions, but all implemented multiple interventions beyond those targeted at reducing interruptions. No study used a controlled design pre and post. Definitions for key outcome indicators were reported in only four studies. Only one study reported κ scores for inter-rater reliability and none of the multi-ward studies accounted for clustering in their analyses.

Conclusions: There is weak evidence of the effectiveness of interventions to significantly reduce interruption rates and very limited evidence of their effectiveness to reduce medication administration errors. Policy makers should proceed with great caution in implementing such interventions until controlled trials confirm their value. Research is also required to better understand the complex relationship between interruptions and error to support intervention design.

Reference:

Raban, M.Z. and Westbrook, J.I. (2014) Are interventions to reduce interruptions and errors during medication administration effective?: a systematic review. BMJ Quality and Saftey. 23, p.414-421.