

Assessing the Prevalence of Accidental Iatrogenic Paracetamol Overdose in Adult Hospital Patients Weighing <50kg: A Quality Improvement Project

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Abstract : Paracetamol overdose is associated with significant and possibly permanent consequences including hepatotoxicity, acute and chronic liver failure, and death. This quality improvement project explores the prevalence of accidental iatrogenic paracetamol overdose in hospital patients with a low body weight, defined as <50kg and assesses the impact of educational posters in trying to reduce it. The study included all adult inpatients on the admissions ward, a short stay ward for patients requiring 12-72 hour treatment, and consisted of three cycles. Each cycle consisted of 3 days of data collection in a given month (data collection for cycle 1 occurred in January 2022, February 2022 for cycle 2 and March 2022 for cycle 3). All patients given paracetamol had their prescribed dose checked against their charted weight to identify the percentage of adult inpatients <50kg who were prescribed 1g of paracetamol instead of 500mg. In the first cycle of the audit, data were collected from 83 patients who were prescribed paracetamol on the admissions ward. Subsequently, four A4 educational posters were displayed across the ward, on two separate occasions and with a one-month interval in between each poster display. The aim of this was to remind prescribing doctors of their responsibility to check patient body weight prior to prescribing paracetamol. Data were collected again one week after each round of poster display, from 72 and 70 patients respectively. Over the 3 cycles with a cumulative 225 patients, 15 weighed <50kg (6.67%) and of those, 5 were incorrectly prescribed 1g of paracetamol, yielding a 33.3% prevalence of accidental iatrogenic paracetamol overdose in adult inpatients. In cycle 1 of the project, 3 out of 6 adult patients weighing <50kg were overdosed on paracetamol, meaning that 50% of low weight patients were prescribed the wrong dose of paracetamol for their weight. In the second data collection cycle, 1 out of 5 <50kg patients were overdosed (20%) and in the third cycle, 1 out of 4 (25%). The use of educational posters resulted in a lower prevalence of accidental iatrogenic paracetamol overdose in low body weight adult inpatients. However, the differences observed were statistically insignificant (p value 0.993 and 0.995 respectively). Educational posters did not induce a significant decrease in the prevalence of accidental iatrogenic paracetamol overdose. More robust strategies need to be employed to further decrease paracetamol overdose in patients weighing <50kg.

Keywords : iatrogenic, overdose, paracetamol, patient, safety

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