

Abstract:

Background: We previously conducted a successful project, entitled the RICAT-study, to reduce inappropriate use of intravenous and urinary catheters in medical wards to prevent healthcare-associated infections.

Aim: To compare surgical and medical wards, and determine risk factors for inappropriate catheter use.

Methods: We performed a cross-sectional study from October, 2017 to May, 2018 in surgical wards of two university hospitals in the Netherlands. We prospectively observed patients every other week for seven months. Inappropriate use was compared with non-surgical wards of the RICAT-study.

Findings: We included 409 surgical patients, and compared this with 1781 medical patients. Inappropriate use occurred in 36 (8.5%) of 425 peripheral intravenous catheters in 373 surgical patients, compared to 400 (22.9%) of 1747 peripheral intravenous catheters in 1665 medical patients, a difference of 14.4% (95% CI 11.1-17.8, $P < 0.001$). Inappropriate use of urinary catheters occurred in 14 (10.4%) of 134 surgical patients, compared to 105 (32.4%) of 324 medical patients, a difference of 22.0% (95% CI 14.7-29.2, $P < 0.001$). Subgroup analysis in the two university hospitals confirmed these differences. The main risk factor for inappropriate use of peripheral intravenous catheters was admission in medical wards, odds ratio 3.50 (95% CI 2.15-5.69), which was also one of the main risk factors for urinary catheters, odds ratio 2.75 (95% CI 1.36-5.55).

Conclusion: Inappropriate use of catheters is more common in medical wards compared to surgical wards. Prevention strategies to reduce healthcare-associated infections should primarily focus on sites with high prevalence of inappropriate use.

Trial Registration: This trial is registered at Netherlands Trial Register, trial NL5438, trialregister.nl/trial/5438.

Reference:

Laan, B.J., Vos, M.C., Maaskant, J.M., van Berge Henegouwen, M.I. and Geerlings, S.E. (2020) Prevalence and risk factors of inappropriate use of intravenous and urinary catheters in surgical and medical patients. *The Journal of hospital Infection*. May 15th. DOI:<https://doi.org/10.1016/j.jhin.2020.04.046>. (epub ahead of print).

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