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An Effective Environment Modification For Falls Prevention In General Acute In-patient Wards: Anti-slippery Spray Application On Patient Shower Tray

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Introduction

While devising effective falls prevention strategies for in-patients is difficult due to the multifactorial nature of falls, some in-patient falls can be prevented by simple measures that control environmental risks in clinical areas. This study demonstrated a simple and cost-effective measure to prevent bathing-related in-patient falls by reducing slipperiness of shower trays.

Objectives

Increase the friction of patients' shower tubs by applying a commercially available anti-slippery spray.

Methodology

Application of the spray was conducted in patients' ceramic shower tubs in 12 general acute wards in the hospital between January 2011 and January 2012. A review on the rate of falls due to bathing-related slip-and-fall before and after the application has been conducted.

Result

Since 2009 to the dates of application in these 12 wards, bathing-related fall rate was 0.017 per 1,000 bed days occupied (7 falls in 422,543 bed days occupied). In the five years since the completion of application to June 2016 (the effective period recommended by the vendor), the rate was 0.006 per 1,000 bed days occupied (5 falls in 840,543 bed days occupied). The risk ratio for bathing-related falls was 0.36, 95% CI (0.11, 1.13), p=0.08. Assuming other factors being equal, the spray

application prevented one bathing-related falls in every 94,181 bed days in these 12 wards, which roughly translates into 1.96 falls prevented every year, or 9.8 falls prevented over five years. Over the period of review, the cost per falls incident prevented was $3,747 estimated by cost in 2016 ($540 per tub times 68 tubs treated in 12 wards divided by 9.8 falls prevented).

The review suggested a remarkable trend of reducing bathing-related falls risk by 64% with anti-slippery spray application. It must be noted that, because bathing-related falls is a rare event, it could require a much longer review period for establishing statistical significance, often unaffordable in busy clinical settings, even for very effective interventions. While this review did not attempt to control confounding variables, these wards have not undergone significant managerial or environmental modification over the review period. In summary, slippery falls over ceramic shower trays though rare can be effectively prevented by applying anti-slippery spray.