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Brief Report

Self-Reported versus observed audit: Measuring CHG bathing compliance

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A B S T R A C T

Measuring compliance with the appropriate chlorhexidine gluconate (CHG) bathing process through direct observation audits can be helpful in sustaining this important practice; however, capturing this data may be difficult. This study reports the differences between observed and self-reported CHG bathing process compliance audits. The difference between mean observed and self-reported compliance was not significant ($p = .06$), indicating that self-reported compliance may be an accurate, easy to obtain proxy measure for CHG bathing process compliance.

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BACKGROUND

Daily bathing with pre-packaged 2% chlorhexidine gluconate (CHG) cloths for intensive care unit (ICU) patients is widely supported in literature to decrease risk of central line associated bloodstream infections (CLABSIs).^{1–3} To monitor and sustain this practice, hospitals frequently complete audits to ensure CHG bathing is being completed. Previous studies have measured compliance with CHG bathing via documentation audits.^{4–6} Whereas this is an easy measure to obtain, this may not always provide an accurate representation of how – or if – the baths are being completed. As daily CHG bathing can significantly decrease CLABSI risk, it is imperative that it is completed consistently and correctly. Indeed, Reagan and colleagues⁷ found that increasing compliance with CHG bathing can result in a 32% reduction in hospital-acquired infection incidence. To that end, we must identify feasible and effective ways to measure CHG bathing compliance.

In addition to measuring documentation compliance, the process of how CHG baths are completed should be monitored, as baths

should be done per the Agency for Healthcare Research and Quality (AHRQ) protocol. This protocol states that not only should the body be bathed from the jawline below, CHG cloths should also be used to clean over transparent central line dressings and up to 6 inches of the catheter tubing, as well as used to clean the perineal area and down 6 inches of the indwelling urinary catheter tubing, if present.

Ideally, process compliance would be measured through direct observation of CHG baths being given; however, this can prove logistically difficult and/or uncomfortable for the nurse and patient. Another option is to use self-reported compliance to measure the CHG bathing process, although self-reported measures are criticized as they may introduce bias. The purpose of this brief report is to provide results on the differences between self-reported and observed process compliance audits for bathing with pre-packaged 2% CHG cloths.

METHODS

We recently conducted a step-wedge cluster randomized control study to examine the effects of two implementation strategies (audit and feedback and educational outreach visits) on bathing compliance using pre-packaged 2% CHG cloths among 14 ICU and bone marrow transplant units at two large hospitals in southeastern U.S.⁸ This study was determined to be exempt by both health system's Institutional Review Boards, and did not meet the definition of human subject research. The current study being reported was completed as a sub-analysis within this larger randomized controlled trial.

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Question	Yes	No	N/A	Comments
CHG cloth used for neck, shoulders, and chest	✓			
Applied CHG over central line(s) dressing(s)		✓		
Cleaned the closest 6" of line(s) with CHG cloth		✓		
CHG cloth used for both arms, hands, and armpits	✓			
Applied CHG over PICC/PIV line(s) dressing(s)			✓	Patient did not have a PICC/PIV line
Cleaned the closest 6" of PICC/PIV lines with CHG cloth			✓	Patient did not have a PICC/PIV line
CHG cloths used for abdomen, groin, and perineum	✓			
Clean around indwelling urinary catheter and down 6" of the tubing	✓			
CHG cloths used for right leg and foot	✓			
CHG cloths used for left leg and foot	✓			
CHG cloths used for back of neck, back, and buttocks	✓			
Total	7	2	--	Compliance score: 7 / 9 = <u>77.8%</u>

Fig 1. CHG bathing process compliance checklist example.

Compliance with daily bathing using pre-packaged 2% CHG cloths was measured via process audits. Champions were provided a checklist to determine CHG bathing process compliance (See Fig 1 for an example). To complete process compliance audits, nursing champions were directed to directly observe CHG baths being performed on patients with central lines using the checklist. If they were unable to directly observe a CHG bath, they were instructed to ask the nurse or nursing assistant who completed the bath to self-report of how the bath was completed using the CHG bathing process checklist. Upon completion, champions entered the data into a REDCap database. An overall compliance score for the individual process compliance audit was calculated within REDCap.

RESULTS

Process compliance audits were conducted over the course of 5 months (May – September 2019). A total of 424 process audits were entered into REDCap; 294 observed and 130 self-reported audits. The overall mean compliance score for the observed audits was 86.1%; for the self-reported audits, mean compliance was 89.8%, a difference of -3.7. This difference between mean observed and self-reported compliance was not significant ($b = -3.6926$, $P = .06$).

DISCUSSION

Measuring CHG bathing compliance through process audits is a useful metric to monitor and sustain this important practice in the ICU setting, and can help identify specific areas of opportunity for hospitals related to CHG bathing. Musuuzza and colleagues⁹ noted that direct observation is an effective, and preferred method for obtaining real-time information about the CHG bathing process. However, direct observation of CHG baths can be a challenging metric to capture. For our study, the champion would complete process audits during their shift while caring for other patients. To directly observe a CHG bath, they would need to be very flexible with their schedule to be available to watch a colleague give a bath. Additionally, standing in the room observing a bath could be uncomfortable for the champion, the staff giving the bath, and/or the patient.

As a proxy measure, if champions were unable to directly observe a CHG bath, we allowed them to obtain self-reported compliance through interviewing nurses or nursing assistants who completed the bath. We found no significant difference in mean CHG bathing process compliance scores between self-report and direct observation. Self-reported compliance, although on average slightly higher than observed compliance, was just as accurate and was much easier to obtain by the champions. Perez et al.¹⁰ also reported that self-reported measurements (for height and weight) are a reliable, efficient proxy measure when direct measurements are not practical. In the future, self-report may be a more feasible and realistic way to measure compliance with the CHG bathing process.

CONCLUSION

Using process audits, perhaps in addition to documentation audits, can provide beneficial information regarding CHG bathing compliance. Whereas it may be difficult to observe CHG baths being given, our study found that using self-reported compliance yields similar results to direct observations, and can be easier to obtain. Research is needed to study the difference between observed and self-reported CHG bathing process compliance when using CHG products.

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