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Dangerous Waters: An Exploration of Bathing Procedures Used in Kentucky's Acute and Long Term Care

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Health Matters

Dangerous Waters: An Exploration of Bathing Procedures Used in Kentucky’s Acute and Long Term Care Facilities

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According to a study by the Centers for Disease Control and Prevention (CDC, 2016), one in 25 hospital patients has at least one Healthcare-Associated Infection (HAI) (AHRQ, 2015). Furthermore, five to ten percent of patients admitted to acute care facilities in the United States (U.S.)

develop a HAI during their inpatient stay (CDC, n.d.; Johnson, Lineweaver, & Maze, 2009). The costs associated with HAIs are astronomical and are not reimbursed by Medicare and Medicaid if deemed to be preventable (HHS, 2008). The CDC (n.d.) reported the current cost of HAIs as being close to 20 billion dollars in the U.S. alone. Therefore, it is economically advantageous for health care facilities to identify and prevent HAIs.

The use of hospital equipment and various treatment regimens have been linked to HAI (Elpern, Killeen, Ketchem, Wiley, Patel, & Lateef, 2009; Madeo & Lowry, 2011; Venkatram, Rachmale, & Kanna, 2010). Johnson et al. (2009) reported that little information is known about the potential sources of infection from personal patient items like bath

basins and recommended increased awareness of bath basins as a source of HAI. National guidelines to minimize bacterial contamination includes cleaning and disinfecting wash basins routinely using an Environmental Protection Agency (EPA) approved product (CDC, 2003). In a study by Johnson et al. (2009), 98% of all bath basins sampled in a multisite study were contaminated with bacteria. Microorganisms found in the bath basins included Enterococci (54%), Gram negative organisms (32%), S aureus (23%), Vancomycin-resistant enterococci (13%), Methicillin-resistant S aureus (8%), P aeruginosa (5%), C albicans (3%), and E coli (2%).

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Table 1. Bath Basin Procedures

	YES n (%)	NO n (%)
Are bath basins labeled for bathing use?	4 (15.38)	21 (80.77)
Is tap water used for bath basin water?	23 (88.46)	3 (11.54)
Is any type of antiseptic used in the bathing water?	8 (30.77)	18 (69.23)
Are disposable washcloths used for bath basin bathing?	2 (7.69)	24 (92.31)
Are there standardized procedures for cleaning bath basins?	3 (11.54)	22 (84.61)
How are bath basins handled after completion of bathing? (Answer all that apply.)		
• Wiped with a paper towel to eliminate standing water	13 (50)	
• Placed upside down on a storage table to air dry	5 (19.23)	
• Wiped with the wash cloth and allowed to air dry	4 (15.38)	
• Placed in patient restroom	6 (23.08)	
• Other	11 (42.31)	
• Rinsed at sink		
• Placed in bedside table		
• Disinfected with Dispatch® & allowed to air dry		
• Placed in bag for storage		
• Discarded		
Are there standardized procedures for storage of bath basins after completion of bathing?	6 (23.08)	20 (76.92)
Are bathing supplies placed in bath basin used for patient bathing?	16 (61.54)	9 (34.61)
Are bath basins discarded after a certain period of time?	7 (26.92)	19 (73.08)

N=26, missing=1

Studies on bathing protocols for patients to prevent HAIs have mixed results. A study by Noto et al. (2015) found that daily bathing of patients with 2% chlorhexidine did not reduce the occurrence of HAIs in a sample of over 9,000 ICU patients at a large medical center in Tennessee. In contrast, Climo et al. (2013) found in a multisite study of hospitalized patients that the use of chlorhexidine impregnated cloths reduced the rate of multidrug resistant organism HAIs by 23%.

Since HAIs are a burden to patients, their families and communities, and society and due to the limited studies on HAI and bathing protocols, the purpose of this pilot study was to 1) examine the bathing procedures for patients in both acute and long term care facilities in Kentucky, and 2) describe the procedures used by facilities for labeling, cleaning and disposing of reusable bath basins.

Methods

This descriptive study was performed by electronically surveying acute care and long term care facilities in Kentucky. The pilot study was approved through the university's Institutional Review Board. The team of researchers developed a questionnaire based on their years of experience using bath basins and providing patient baths while practicing as acute and critical care nurses. This 17-item survey consisted of a single demographic item while the remaining items assessed procedures

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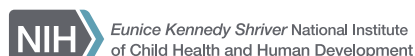
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for patient bathing and protocols for handling bath basins. Each question was entered into Qualtrics, an electronic surveying tool, to enable electronic distribution throughout the state. Members of the Kentucky Hospital Association (N=120) and the Kentucky Association of Health Care Facilities (N=200) received a brief email explaining the research study and containing the link which opened the anonymous survey. Completion of the survey implied consent, after which the respondents had the option of being entered into an anonymous drawing for one of five \$50.00 VISA gift cards. Data collected in Qualtrics were analyzed using descriptive statistics and review of responses to open response items. IBM SPSS 23 software was used for this analysis.

Results

Twenty-six facilities participated in the pilot study and the majority (77%) of these provided acute care patient services. Eighteen (69%) of the respondents indicated that disposable bath basins were used in patient care, and only 11 (44%) noted that standardized patient bathing procedures were used. Procedures for patient bathing ranged from bathing in bathrooms to bathing with disposable basins. In addition, facilities used chlorhexidine gluconate (CHG) wipes such as Bath in a Bag® systems or disposable bath wipes. Some healthcare sites specified certain procedures for bathing patients based on the patient's diagnosis and/or the unit upon which they were admitted. Critical care patients were cleansed with CHG soap and/or bathed daily if they had a central line while Open Heart patients received a bath with Hibiclens®. One location indicated that the bathing technique varied by the caregiver.

Fourteen (52%) facilities noted that patient bathing begins on the morning after admission. In addition, eleven (44%) facilities specified patient bathing occurred at other times also described as 1) as needed, 2) within 24 hours of admission, 3) upon patient request, 4) post op day one, or 5) patient condition or need for bath when admitted. Respondents noted that most patients were bathed daily and as needed unless the patient was geriatric in which daily bathing is contraindicated. The findings related to bath basin procedures are found in Table 1.

Discussion and Implications for Practice

This pilot study was conducted to determine current practices related to patient bathing procedures and handling of bath basins. The participating facilities in Kentucky overwhelmingly indicated that standardized procedures are not developed and/or followed for either. An exception appears to be in some critical care units where participants noted the use of disposable basins and CHG.

A review of the literature shows little standardization in the practices for bathing patients. According to the CDC (2003), use of chlorhexidine in patient bathing to prevent central line-associated bloodstream infections (CLABSIs) outside ICUs and

to prevent MRSA infections is recommended. In its guidelines for environmental infection control, the CDC recommended that bath basins be cleaned and disinfected frequently with an EPA approved product. Furthermore, the guideline referenced the draining and cleaning of tubs and whirlpools after each patient's use and disinfecting equipment surfaces and components with an EPA approved product (CDC, 2012). Based on the findings of this pilot study it is evident that protocols for bathing and using bath basins should be developed and implemented in the state of Kentucky. Each facility should have a specific bathing protocol in place based on evidence based recommendations.

Limitations

Findings from this pilot study are limited in their generalizability. The authors note that the study was conducted in only one southeastern state and other bathing procedures may be common in various parts of the U.S. In addition, the study response rate was low at 17% for acute care hospitals and 3% for long term care facilities, which is common for survey based research. Furthermore, the survey was sent to the Chief Nursing Officer or Administrator at each facility and it is unknown if the recipient completed the questionnaire or had another individual provide the information. Finally, the use of a researcher developed tool is a limitation of this study. Based on the results of this pilot study and its limitations, the researchers are currently planning a national study using a validated questionnaire very similar to the questionnaire used in this pilot to further assess bathing procedures and bath basin use in the U.S.

Conclusion

The results of this pilot study demonstrate that bathing procedures and the use of bath basins vary across Kentucky. A review of the literature shows that the lack of standardization is likely not an isolated problem and may impact patients across the country. Given that bathing is a procedure that affects every patient admitted in both acute and long care facilities, future research and development of standard procedures are crucial to prevent HAI, patient suffering and tremendous cost to an already financially strained healthcare system.

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