



CHICAGO JOURNALS



Do Patients Feel Comfortable Asking Healthcare Workers to Wash Their Hands?

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Source: *Infection Control and Hospital Epidemiology*, Vol. 33, No. 12 (December 2012), pp. 1282-1284

Published by: [The University of Chicago Press](#) on behalf of [The Society for Healthcare Epidemiology of America](#)

Stable URL: <http://www.jstor.org/stable/10.1086/668419>

Accessed: 05/11/2013 14:40

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TABLE 2. Comparison of Mean Observed Hand Hygiene Adherence in Units with the Highest and Lowest SAQ Domain Scores

SAQ domain	Hand hygiene adherence, %		P value
	Bottom tertile of domain scores	Top tertile of domain scores	
Teamwork climate	67	71	.07
Safety climate	64	72	<.01
Job satisfaction	67	73	.01
Stress recognition	69	67	.44
Working conditions	67	73	.01
Perceptions of hospital management	67	72	.02
Perceptions of unit management	66	71	.09

NOTE. SAQ, Safety Attitudes Questionnaire. P value is reported for comparison of means by Wilcoxon rank-sum testing.

culture and hand hygiene behavior has been highlighted in multiple widely circulated publications on hand hygiene.^{7,8} However, this analysis is novel in its documentation of a link between objective healthcare worker assessments of safety culture and specific directly observed behaviors of those healthcare workers, collected independently. Our findings may be limited by the fact that we were unable to control for staffing levels and severity of illness in the study units, given the retrospective nature of the work. Our finding does, however, suggest that safety climate may be an important mediator of staff behavior. It remains unclear whether certain safety domains are more significant than others in predicting this behavior or whether other safety behaviors, such as influenza vaccination, may also be linked to safety culture. Safety culture may provide a new intervention avenue for improving hand hygiene adherence.

ACKNOWLEDGMENTS

Financial support. This study was supported by a grant from the National Heart, Lungs, and Blood Institute (K23HL098452 to Johns Hopkins University).

Potential conflicts of interest. All authors report no conflicts of interest relevant to this article. All authors submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest, and the conflicts that the editors consider relevant to this article are disclosed here.

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Received May 1, 2012; accepted July 15, 2012; electronically published October 29, 2012.

Infect Control Hosp Epidemiol 2012;33(12):1280-1282

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Do Patients Feel Comfortable Asking Healthcare Workers to Wash Their Hands?

More than 1.7 million hospitalized patients develop healthcare-associated infections (HAIs) each year in the United States.¹ Appropriate hand hygiene by healthcare workers

(HCWs) is associated with reduced rates of HAI, but it is challenging to sustain.²⁻⁴

Patient empowerment may improve HCW hand hygiene,⁵⁻⁷ and it is recommended by the World Health Organization's SAVE LIVES: *Clean Your Hands* campaign.^{8,9} We surveyed hospitalized patients to assess their beliefs about hand hygiene by HCWs and their willingness to engage HCWs.

We used an interviewer-administered questionnaire to survey patients at a 536-bed tertiary care academic medical center. The questionnaire was designed to measure patient awareness of HAI but also included 5 questions about hand hygiene. Currently, no standardized, consistent patient education about hand hygiene occurs at our institution.

Criteria for participation included (1) being at risk of developing or having a history of infection with methicillin-resistant *Staphylococcus aureus* or *Clostridium difficile*; or (2) being at risk of developing a central line-associated bloodstream infection; or (3) being at risk of developing or currently affected by a surgical site infection. At-risk patients were defined as those who had central venous catheters or indwelling urinary catheters and had recently undergone surgery and received antibiotics. Patients who were unable to respond and those with impaired cognition were excluded from the study. This study was granted exemption by the institutional review board. We collected data on a number of patient factors, including demographics and comorbidities.

Pilot testing of the questionnaire was performed. Responses to 4 questions were recorded by the interviewer on a 5-point Likert-style scale and ranged from "strongly agree" to "strongly disagree." The final question required a yes/no response. The survey questions are presented in Table 1. The term "washing hands" encompassed the use of either soap and water or waterless hand gel and was included because pilot testing indicated patient preference of the term "hand-washing" rather than "hand hygiene." For analysis, we combined the "strongly agree" and "agree" responses into one category and "disagree" and "strongly disagree" into another.

The Pearson χ^2 and Kruskal-Wallis tests were used for categorical data and nonnormally distributed data, respectively, using Stata 12.0 (Statacorp). Because of the small sample size of the study population, we did not conduct multivariate analysis.

A total of 200 patients participated in the study (response rate, 94.78%). Table 1 presents the patient responses, stratified by sex. Of the patients surveyed, 99.5% believed that HCWs were supposed to wash their hands before and after caring for patients, and 90.5% believed that HCWs should be reminded to wash their hands if they forget. Only 64% and 54% indicated that they would feel comfortable asking nurses or physicians to wash their hands, respectively, and only 14% of patients reported ever having asked caregivers to wash their hands.

Patients who had worked in health care in the past were significantly more likely to feel comfortable asking both nurses and physicians to wash their hands than those patients who had never worked in health care (odds ratio [OR], 2.17 [95% confidence interval (CI), 1.09–4.32]; $P = .027$; and OR, 1.95 [95% CI, 1.04–3.68]; $P = .038$, respectively), and compared with patients who had no more than a high school education, patients with at least a college degree were nearly twice as likely to feel comfortable asking nurses to wash their hands (OR, 1.99 [95% CI, 1.04–3.82]; $P = .038$). Patients who had a family member who had worked in health care were significantly more likely to feel comfortable asking physicians to wash their hands than patients who did not have a family member who had worked in health care [OR, 2.32 [95% CI, 1.25–4.32]; $P = .008$). There was also a significant positive association between the level of comfort patients had in asking both nurses and physicians to wash their hands and whether they had ever asked a HCW to wash their hands in the past (OR, 5.58 [95% CI, 1.62–19.21]; $P = .006$; and OR, 6.29 [95% CI, 2.10–18.88]; $P = .001$, respectively).

The values we report here are lower than those reported in a study from Switzerland that indicated that approximately

TABLE 1. Patients' Responses to Survey Questions, Stratified by Sex

Category	All patients (n = 200)	Male (n = 101)	Female (n = 99)	P
Answered "strongly agree" or "agree"				
Healthcare workers are supposed to wash their hands before and after caring for patients	199 (99.5)	100 (99.0)	99 (100)	.321
If healthcare workers forget to wash their hands, you should remind them to do so	181 (90.5)	89 (88.1)	92 (92.9)	.246
You would feel comfortable asking one of your nurses to wash his or her hands if he or she forgot	128 (64)	64 (63.3)	64 (64.6)	.85
You would feel comfortable asking one of your physicians to wash his or her hands if he or she forgot	108 (54)	56 (55.4)	52 (52.5)	.679
Answered "yes"				
In the past, have you ever asked one of your caregivers (a nurse or doctor) to wash his or her hands?	28 (14)	13 (12.8)	15 (15.2)	.642

NOTE. Data are no. (%) of patients unless otherwise indicated. P values are for comparisons between male and female patients.

70% of patients did not feel comfortable asking HCWs to perform hand hygiene.¹⁰ Patients' comfort level when asking HCWs to perform hand hygiene may be very context and region specific, but it is clear that more needs to be done to empower patients to feel comfortable asking caregivers to wash their hands or use waterless hand gel.

Our findings have 2 important implications. First, within our patient population, baseline beliefs about the importance of appropriate hand hygiene in the healthcare setting were universally high; more education is unlikely to empower patients further. Second, hand hygiene campaigns should focus interventions on making patients more comfortable with asking HCWs to wash their hands.

Our study had a number of limitations. First, we surveyed a small group of patients in a single institution, using a convenience sample composed of patients at risk for or with a history of HAI, and therefore generalizability may be limited. Second, in this survey, patients with impaired cognition or who were unable to respond were excluded. This group probably included sicker patients who were at high risk for HAI; HCW hand hygiene is most important for these patients, and interventions to promote hand hygiene compliance other than patient engagement must be explored. Third, patients' responses may have been affected by the presence or absence of family and friends at the time of the survey. Future hand hygiene campaigns should focus on empowering patients to engage in improving HCW compliance with hand hygiene, including an assessment of whether expecting patients to tell HCWs to practice hand hygiene will promote compliance.

ACKNOWLEDGMENTS

Potential conflicts of interest. All authors report no conflicts of interest relevant to this article. All authors submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest, and the conflicts that the editors consider relevant to this article are disclosed here.

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Received February 3, 2012; accepted June 20, 2012; electronically published October 25, 2012.

Infect Control Hosp Epidemiol 2012;33(12):1282-1284

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