

Preventing The Transmission of Methicillin-Resistant Staphylococcus Aureus in the Hospital Setting: Perspectives from Health Care Workers

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Background

- Addressing the problem of colonization of methicillin-resistant staphylococcus aureus (MRSA) is essential in creating healthier environments for patients and health care workers (HCWs)
- As the leading cause of nosocomial infections in hospitalized patients, MRSA is associated with increased morbidity and mortality

Purpose

- To evaluate original research exploring HCWs perspectives towards MRSA transmission prevention practices

Conclusions

- Some HCWs are more confident about their knowledge of MRSA transmission and prevention practices than others
- HCWs overestimated their compliance to preventive practices
- Barriers to compliance of prevention practices include: lack of knowledge or time, decreased staff to patient ratios, and being afraid or insecure about working with patients on MRSA precautions

Implications

- Knowledge of first-hand experiences of HCWs will provide information that can inform future education and skill building interventions to decrease the transmission of MRSA
- Interventions need to include ways to increase comfort level of HCWs when working with patients who have MRSA, especially those with less formal training.

Results Matrix

Reference	Design Purpose	Sample and Setting	Major Results	Limitations/ Evidence Level/ Quality
Andersson et al (2016) Experiences of nursing staff caring for patients with methicillin-resistant staphylococcus aureus <i>International Nursing Review</i> , 63(2), 233-241.	Design: Qualitative descriptive original research study using semi structured interviews Purpose: To describe nursing staffs' experiences of caring for patients with MRSA in Sweden.	Inclusion Criteria: Participant should have nursed at least one patient with MRSA. Sample included all women, working on surgical, medical, orthopedic and rehabilitation units in an urban area, in Stockholm. N= 15 interviews • 8 RNs, (22–61 yrs. old) and 7 assistant nurses (34–59 yrs. old). *RNs had 10 mos. -34 years of experience and nurse assistants had 7 - 22 yrs.	<ul style="list-style-type: none"> When HCWs felt that they had inadequate knowledge about how to care for the patients with MRSA, it affected both the patients and the patient care. Continuous education and support for nurses caring for pts with MRSA is needed to prevent fear and anxiety. Low levels of knowledge on MRSA made HCWs feel afraid & insecure Increased levels of knowledge on MRSA helps HCWs confidence and security in their role as caregivers. <p>Responses from participants were presented in three themes were: feeling ignorant, afraid and insecure, feeling competent and secure and feeling stressed and overworked</p> <ol style="list-style-type: none"> “Feeling ignorant, afraid and insecure” included HCWs feeling that they lacked the information needed to professionally care for MRSA patients “Feeling competent and secure” = correct information about MRSA infection and prevention “Feeling stressed and overworked” included HCWs feeling stressed and having an extra workload when caring for MRSA patients. 	<p>Limitation: Head RN at each unit was the one who identified potential participants for the interviews based on our inclusion criteria</p> <p>Limitation: Selection bias may have occurred being that the most positive and well-informed participant may have been chosen</p> <p>Limitation: Transferability of the study may be an issue due to it being conducted in Sweden, a country with low rates of MRSA.</p> <p>Evidence level: III</p> <p>Quality rating: Medium</p>
Kapil et al (2015) Hand hygiene in reducing transient flora on the hands of healthcare workers: An educational intervention. <i>Indian Journal of Medical Microbiology</i> , 33(1), 125-8.	Design: Quantitative, descriptive, cross sectional original research study Purpose: To evaluate the role of hand hygiene in reducing the bacterial flora on HCW's hands.	15 resident doctors, 15 medical students, 15 RNs and 15 hospital attendants at an tertiary care hospital in North India. N= 60 subjects *Informed consent was obtained from all the participants of the study	<ul style="list-style-type: none"> Majority of personnel, irrespective of the level of education, were aware of the practice of hand hygiene after touching patients. Yet, not all knowledgeable of importance of hand hygiene before touching patients (esp if attendants as compared to doctors and nurse).. All HCWs confirmed availability of soap, water, & alcohol-based hand rub. Barriers to compliance: lack of time, attitude, or if using running water lack of napkins/separate towels to dry hands 42 out of 60 (70%) of HCWs had a bacterial count ≥ 100 on both hand before hand hygiene while working in the hospital. After hand rub: 95-99% reduction in bacterial load of doctors/nurses when proper hand hygiene was performed (only 70% in bacterial load for hospital attendants and 50% in sanitary attendants). Eight persons (+) <i>Staph</i> and 3 of those MRSA 	<p>Limitation: Sample of convenience at one hospital site in India. Limits generalizability.</p> <p>Evidence level: III</p> <p>Quality Rating: High</p>
Seibert et al (2014) Knowledge, perceptions, and practices of methicillin-resistant staphylococcus aureus transmission prevention among health care workers in acute-care settings. <i>American Journal of Infection Control</i> , 42(3), 254-254.	Design: Original research Quantitative, descriptive, cross sectional Purpose: To evaluate knowledge, perceptions, and practices related to MRSA among a diverse sample of HCWs at an acute care hospital.	Medical, nursing, allied health, and support services staff at an acute-care hospital in Virginia N= 276 surveys, 104 blinded observations	<ul style="list-style-type: none"> Each professional group overestimated how well they applied their prevention of MRSA knowledge to their profession More than 90% of HCWs agreed that MRSA was a national problem, but fewer than 1/2 believed that it was local problem w/ in the hospital in which they worked. Each professional group perceived their peers to be less cautious at prevention practices than themselves Direct observations noted that all HCWs had significantly lower compliance to hand hygiene recommendations, but self-reported rates were higher All groups of HCWs had limited knowledge about the duration of time that MRSA can live on surfaces and about the effectiveness of alcohol rubs at removing MRSA from their hands. 	<p>Limitation: Results may be overestimates of the levels of knowledge, perceptions, and practices in the HCW's population due to this study being self-selected.</p> <p>Limitation: Findings may not be generalizable to other HCW populations due to the study being conducted at only one facility.</p> <p>Evidence level: III</p> <p>Quality Rating: High</p>
Seibert et al (2014) Preventing transmission of MRSA: A qualitative study of health care workers' attitudes and suggestions. <i>American Journal of Infection Control</i> , 42(4), 405-405.	Design: Qualitative descriptive design Purpose: To examine HCWs' attitudes about MRSA, perceptions of challenges to MRSA, barriers to MRSA prevention, and suggestions for preventing the spread of MRSA in the acute care settings.	16 RNs, 1 physician, 6 allied health professionals, and 3 support staff at an acute-care hospital in Virginia N= 26 interviews *42 volunteered to be interviewed, but only 26 completed the process. *Sample was a purposive sample with HCWs engaged in direct patient care or with jobs requiring entry into patient care areas.	<ul style="list-style-type: none"> HCWs expressed it as their duty to protect their patients & were aware of possible MRSA transmission when hand hygiene and contact precautions are neglected 15 noted compliance to recommended practices of PPE including gloving, gowning, and hand hygiene while 13 noted being noncompliant. <p>Interview content inductively developed 7 categories and themes from responses: “Perceptions/attitudes, contact precautions, time, knowledge/education, communication, hand hygiene and contamination”</p> <ul style="list-style-type: none"> Time= barrier when HCWs are in a rush & staff to patient ratio is high. Continuous education is essential in preventing the transmission of MRSA. Ineffective communication=a major barrier to preventing implementation of recommended practices Gloving only protected HCWs and not patients from contamination 	<p>Limitation: Self-selective sample that may disproportionately included nurses (limiting perspective of the other professional groups)</p> <p>Limitation: Some interviews were rushed since they occurred during working hours resulting in some participants not being able to give in depth explanations</p> <p>Evidence level: III</p> <p>Quality rating: High</p>