Daily antiseptic baths slash risk of bloodstream infections in critically ill children

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Conducted among more than 4,000 children hospitalized in 10 pediatric intensive care units in five U.S. hospitals, the study compared standard soap baths with antiseptic baths with diluted chlorhexidine gluconate (CHG), a commonly used cleanser that kills viruses, bacteria and fungi.

Children bathed with the antiseptic solution had a 36 percent lower risk of bloodstream infections, compared with those given soap-and-water

baths.

Traditionally, bedside bathing has been viewed as nothing more than a comfort measure, the researchers say, but the study findings show that the simple, often overlooked procedure can also be a powerful infection-prevention tool.

"Daily bedside baths with an antiseptic solution may be an easy, quick and relatively cheap way to cut the risk of a potentially life-threatening infection in these vulnerable children," says lead investigator Aaron Milstone, M.D., M.H.S., a pediatric infectious disease specialist at Johns Hopkins Children's Center.

Bloodstream infections, a common occurrence among critically ill patients, can lead to serious complications, including organ damage and even death. Beyond the human toll, each infection can cost up to $39,000 in additional treatment, the investigators say.

Notably, the researchers add, daily antiseptic baths appeared to reduce bloodstream infections of any origin.

In recent years, patient safety initiatives have focused on—and made great strides in—preventing one particular subtype of bloodstream infections, those caused by central venous catheters. But because bloodstream infections often occur even in children without such devices, the protective effects of antiseptic bathing may go beyond catheter-related infections, the researchers say.

"Bloodstream infections, catheter-related or not, occur in many critically ill children and cause a lot of morbidity, so our efforts should be on reducing bacteremia of any and all origins," says Trish M. Perl, M.D., M.Sc., an infectious disease expert and lead epidemiologist of the Johns Hopkins Health System.

The Johns Hopkins Children's Center initiated antibacterial baths in its intensive-care unit as an infection-control measure in 2011.

For the study, children in half of the 10 intensive-care units were bathed with washcloths soaked in CHG solution, while those in the other half received standard soap-and-water sponge baths. Midway through the yearlong study, the researchers swapped bathing procedures across units so that the wards performing soap-and-water baths switched to antiseptic baths and vice versa. Doing so, the researchers say, further ensured that any decrease in infection rate was due to the antiseptic baths rather than chance.

Most children experienced no side effects: 12 children had mild reactions to the solution, such as skin irritation.

A staple of hospital infection control since the 1970s, CHG solution is commonly used as a pre-surgery scrub and to prepare a patient's skin for surgery. It also is available over the counter as an at-home skin cleanser. The researchers caution that additional studies are needed to determine whether the benefits of antiseptic baths extend to children hospitalized outside of the ICU.

The other hospitals participating in the study were St. Louis Children's Hospital, Children's Hospital of Philadelphia, Seattle Children's Hospital and Children's National Medical Center.

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